Determining the Relationship of Agility, Innovation and Corporate Social Responsibility on the Competitiveness in Telecommunication Service Sector

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Annex A

THESIS ACCEPTANCE CERTIFICATE

Certified that final copy of MS/MPhil thesis entitled "**Determining the Relationship of Agility, Innovation and Corporate Social Responsibility on the Competitiveness in Telecommunication Service Sector"** written by **Zainab Bashir** Registration No. **00000361605** of MS (Engineering Management) has been vetted by undersigned, found complete in all respects as per NUST Statutes/ Regulations, is free of plagiarism, errors and mistakes and is accepted as partial fulfillment for award of MS/M Phil degree. It is further certified that necessary amendments as pointed out by GEC members of the scholar have also been incorporated in the said thesis.

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Dedication

This thesis is dedicated to my parents, whose unwavering guidance and encouragement have been my greatest source of strength; to my siblings, who have always believed in me and inspired me to strive for excellence; and to my friends, whose support and camaraderie made this journey both meaningful and memorable.

Your collective love and faith in me have been the driving force behind this accomplishment

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Abstract

The telecommunications service sector operates in a dynamic and uncertain global environment, marked by dynamic competition and optimizing stakeholder concerns on sustainable development. However, the emphasis of the competition is on quality of service and affordability only. It is required to scale up this competition to agility, innovation, corporate social responsibility (CSR) and the environmental management. These attributes demonstrate a company's sustainable approach in meeting technological, social and environmental contribution in the corporate competition. The objective of this study is to quantify the hypothetical relationship of agility, innovation and CSR in achieving competitive advantage in the telecommunication service sector with the mediation of environmental management. 650 responses were collected based on a survey questionnaire from the employees of telecommunication service organizations operating in Pakistan and the data was analyzed using partial least square structural equation modeling. By exploring the roles of three key dynamic capabilities and their impact on environmental management, this study contributes to the existing literature by illustrating how collaboration and mediation among these capabilities foster competitive advantages.

Keywords: Agility, Innovation, Corporate Social Responsibility, Competitiveness, Environmental Management, Telecommunication service sector

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List of Abbreviations

AI Artificial Intelligence
CSR Corporate Social Response
CA Competitive Advantage
CRA Customer-related Agility
ENM Environmental Management
HC Hyper-competitiveness
NPV Net present value
OP Operational Agility
PDC Personal Development Competitiveness
RE Renewable energy
USF Universal Service Funds
CVI Content validity index
CVR Content validity Ratio
SME Small Medium sized enterprises

Chapter 1: Introduction

Competitiveness in an organization refers to its ability to consistently perform better than its rivals in the market. It involves leveraging strengths, resources, and strategies to deliver superior value to customers, maintain or increase market share, and achieve long-term sustainability (Baumann & Harway, 2018). Organizations that cultivate a competitive edge are more resilient to market fluctuations, as they can adapt to changing customer demands and technological advancements. Key players in the mobile market include Jazz, Telenor Pakistan, Zong (China Mobile Pakistan), and Ufone. Jazz, with over 70 million subscribers, remains the market leader, followed by Telenor and Zong, each with significant market shares (PTA, 2023). In summary, the telecommunications sector in Pakistan plays a vital role in driving economic growth, improving connectivity, and fostering digital inclusion. In today's interconnected digital world, strategic partnerships and alliances play a critical role in gaining competitive advantage in the telecommunications sector. These partnerships can help telecom companies expand their service offerings, enter new markets, and enhance their technological capabilities.

1.1 Competitiveness

Competitiveness is essential for an organization’s growth, sustainability, and market position. It drives innovation, motivating companies to continuously improve their products, services, and processes. Additionally, competitiveness fosters a culture of high performance, where employees are driven to enhance productivity and contribute to the organization's goals. According to Johnson (2023), competitive organizations often outperform their peers in profitability and customer satisfaction, as they are better equipped to anticipate market trends and meet consumer needs. Moreover, research shows that competitiveness encourages long-term strategic planning, ensuring that companies not only survive but also thrive in challenging environments (Lee, 2021). There are two types of competitiveness.

1.1.1 Cost Competitiveness. It refers to the ability of a firm or nation to produce goods or services at a lower cost than its competitors, enabling it to offer lower prices or sustain higher profit margins. This can be achieved through improved production efficiencies, lower input costs, or economies of scale (Hanouz & Dutta, 2020).

1.1.2 Differential Competitiveness. It emphasizes the non-cost attributes of a product or service, such as quality, innovation, brand strength, and customer experience. Companies that focus on differentiation create value that allows them to charge premium prices, distinguishing themselves from cost-based competition (Hanouz & Dutta, 2020).

The telecommunications sector in Pakistan has become one of the most dynamic industries in the country, witnessing rapid growth and modernization over the past two decades. This expansion has been fueled by deregulation, foreign investments, and increasing demand for digital connectivity, which has led to significant improvements in mobile and broadband services. As of 2023, Pakistan boasts over 200 million cellular subscribers, with mobile broadband users surpassing 124 million, showcasing the sector's critical role in the country's socioeconomic development (Pakistan Telecommunication Authority [PTA], 2023).

A major catalyst for this growth was the Telecom Deregulation Policy of 2004, which opened the market to private operators and introduced competition. This liberalization not only attracted foreign investments but also led to the establishment of multiple mobile and internet service providers (ISPs). The operators have continuously expanded their services, particularly in 3G and 4G networks, with Zong leading in 4G subscriber growth due to its aggressive infrastructure development and innovative marketing strategies (Zong, 2022).

Despite these advancements, the sector faces several challenges. One of the most pressing issues is the urban-rural digital divide. While urban areas benefit from high-speed mobile and broadband services, rural regions often lack reliable coverage and internet access. This disparity limits digital inclusion and economic opportunities for a significant portion of the population. The government, along with the PTA, has launched initiatives like the Universal Service Fund (USF) to address these gaps by extending telecom infrastructure to underserved areas (USF, 2023).

Another significant challenge is the sector’s regulatory and fiscal environment. High taxes on telecom services, including withholding taxes on mobile top-ups and internet data, have been a point of contention between telecom operators and the government. These taxes contribute to a higher cost of services, potentially limiting growth in mobile broadband penetration, especially among lower-income users. Furthermore, telecom operators have called for a more predictable regulatory framework, particularly concerning spectrum allocation and license renewals, to ensure sustained investment in the sector (Khan, 2023).

Looking forward, the adoption of 5G technology is one of the most anticipated developments in Pakistan’s telecom sector. Although the country has not yet rolled out 5G commercially, preparations are underway. The PTA conducted several trials in collaboration with telecom operators, with a potential nationwide rollout expected in the near future. 5G technology promises to revolutionize Pakistan’s digital economy by offering ultra-fast internet speeds, low latency, and improved network reliability, which could boost sectors like healthcare, education, agriculture, and e-commerce (PTA, 2023).

At the same time, cybersecurity concerns have become more prominent as internet and mobile usage grows. Cybercrimes, including data breaches, financial fraud, and identity theft, have increased, prompting the government to strengthen its cybersecurity framework. In 2016, Pakistan passed the Prevention of Electronic Crimes Act (PECA), which provides a legal framework for addressing cybercrimes and ensuring data protection (PECA, 2016). However, experts argue that more needs to be done to enhance public awareness and invest in cybersecurity infrastructure, especially as the country moves towards greater digitalization (Zafar, 2023).

While significant strides have been made in expanding mobile and broadband services, the sector must navigate challenges like regulatory unpredictability, rural connectivity issues, and cybersecurity threats. The future of the sector looks promising, particularly with the upcoming 5G rollout, which is expected to significantly boost the country's digital capabilities and global competitiveness.

The telecommunications sector holds significant importance, as its performance is crucial for a wide range of stakeholders worldwide. Khalid, Ahmed, Tundikbayeva, and Ahmed (2019) describe firm performance as a collection of metrics that assess and communicate value to both internal and external stakeholders. Abdi and Sasaka (2017) define firm performance as the extent to which an organization achieves its objectives. Okeke, Onuorah, Onyekwelu, and Nwajei (2019) further elaborate that firm performance can be evaluated through various dimensions, including financial performance (such as profits, return on assets, and return on investment), market performance (including sales and market share), and shareholder returns (like total shareholder return and economic value added

In the telecommunications sector, a variety of metrics have been utilized to measure firm performance, including customer experience, brand image, customer loyalty, subscriber numbers, market share, geographical reach, service diversity, and pricing strategies (Sirapracha & Tocquer, 2022; Hsu, 2018; Kamau, 2018). The telecommunications industry plays a vital role in facilitating communication among individuals. Khan, Ahmed, Ibrahim, and Shahid (2012) define telecommunications as the transmission of signs, signals, messages, words, writings, images, and sounds through various media, such as wire, radio, and optical or other electromagnetic systems. Paulrajan and Rajkumar (2011) simplify this definition by stating that telecommunications involve communication over distances via telephone.

The sector significantly contributes to a country's Gross Domestic Product (GDP) by generating employment opportunities and enhancing communication capabilities. Venkatram (2012) emphasizes that the telecommunications industry serves as a facilitator of economic

activities across various sectors, thereby contributing to GDP growth. Additionally, the telecommunications sector has played a crucial role in enabling mobile banking and lending services, as well as providing internet access to clients. These advancements have stimulated economic activities, introduced greater convenience, and generally improved the quality of life.

Competitive advantage, which originated from a relative advantage, is defined as having unique skills or the capacity to create and provide novel aspects, including services, goods, processes, or creative ways of approaching customers or stakeholders. Businesses that have a competitive advantage can innovate, adapt to a dynamic marketplace, and compete successfully. To put it simply, a company's competitive advantage is its capacity to hold a particular place in the market or industry, making it difficult for competitors to duplicate its sources of advantage and enabling the company to reap long-term benefits from its distinctiveness (Nsou., 2021).

The telecommunications industry is one of the most crucial components of modern economies, acting as the backbone of digital communication, connectivity, and information dissemination. As technological advancements continue to evolve, companies in the telecom sector face fierce competition, not just from within the industry, but also from tech giants, digital service providers, and other adjacent industries such as cloud and content providers. To succeed, companies must build and maintain a competitive advantage, which refers to the strategies and capabilities that allow a firm to outperform its rivals, securing greater profitability, market share, and customer loyalty.

One of the primary drivers of competitive advantage in the telecommunications industry is technological innovation. The rapid development of new technologies, such as 5G, fiber-optic networks, and the Internet of Things (IoT), provides opportunities for companies to differentiate themselves and deliver enhanced services to their customers.

The introduction of 5G technology is one of the most transformative innovations in telecommunications. It offers ultra-low latency, faster data speeds, and the ability to connect a vast number of devices simultaneously, making it essential for enabling technologies such as smart cities, autonomous vehicles, and advanced IoT applications. Companies that are early adopters of 5G have a competitive advantage by providing superior services and capturing new market segments. For example, Verizon and AT&T have made significant investments in their 5G networks, positioning themselves as leaders in the U.S. market. Globally, Huawei and China Mobile have taken the lead in rolling out 5G infrastructure, especially in regions where 5G adoption is accelerating (Gartner, 2023). These companies are capitalizing on the demand

for faster, more reliable mobile data services, which is expected to grow as more industries integrate 5G into their operations.

In addition to 5G, fiber-optic technology is playing a critical role in the telecommunications industry's evolution. Fiber networks enable faster, more reliable broadband services compared to traditional copper or satellite networks. Companies that invest in expanding their fiber infrastructure gain a competitive edge by offering customers superior internet connectivity, which is increasingly important in today's digital economy.

For instance, Google Fiber has been expanding its fiber-optic internet services in various U.S. cities, offering speeds of up to 1 gigabit per second, significantly faster than most competitors. Similarly, BT Group in the UK has been aggressively investing in fiber infrastructure, aiming to cover millions of households with ultra-fast broadband by 2025 (Telecoms, 2023). These investments in fiber technology help companies differentiate their services, attract more customers, and reduce churn.

With the growth of the Internet of Things (IoT), telcos are also leveraging edge computing to enhance their competitive position. Edge computing allows data to be processed closer to the source of data generation, improving latency and reducing the load on central data centers. Telecom companies that offer edge computing solutions alongside IoT connectivity have the potential to attract industrial clients in sectors such as manufacturing, healthcare, and logistics, all of which require real-time data processing.

For example, Telefónica and Vodafone have begun integrating edge computing into their network architectures, allowing them to offer enhanced services to industries that require low-latency data processing (IDC, 2023). This combination of edge computing and IoT connectivity gives these companies a competitive advantage in serving industrial clients and expanding their service offerings beyond traditional consumer markets.

While technological innovation is crucial, cost leadership is another fundamental strategy for gaining a competitive advantage in the telecommunications sector. Firms that can offer their services at a lower cost than their competitors, without sacrificing quality, are better positioned to capture market share and improve profitability.

Telecom companies typically operate in capital-intensive industries, requiring significant investments in infrastructure, such as cell towers, fiber-optic cables, and data centers. Firms that can achieve economies of scale by spreading these costs over a larger customer base can reduce their average costs and offer lower prices to consumers.

For example, AT&T and China Mobile have vast customer bases, which allows them to spread the costs of infrastructure and R&D over millions of users. This gives them a cost advantage

over smaller competitors, enabling them to offer competitive pricing while maintaining profitability (OECD, 2023).

Another way telecom companies reduce costs and improve efficiency is through network sharing agreements. These agreements allow companies to share infrastructure, such as cell towers and transmission lines, reducing the need for duplicative investments. Network sharing is particularly beneficial in rural or low-density areas, where the cost of building infrastructure is high relative to the potential revenue from subscribers.

For example, T-Mobile and Telefónica have entered into network-sharing agreements in various regions, allowing them to expand their network coverage without incurring the full cost of infrastructure development (GSMA, 2023). These partnerships improve cost efficiency, making it easier for companies to compete on price while still delivering high-quality services.

Operational efficiency can also be enhanced through automation and artificial intelligence (AI). Telecom companies are increasingly using AI to optimize their networks, predict maintenance needs, and automate customer service processes. AI-driven operations can reduce costs, improve service quality, and increase customer satisfaction.

For example, Vodafone has implemented AI-powered chatbots to handle customer inquiries, reducing the need for human intervention in routine tasks and improving response times. Additionally, companies like Orange are using AI to predict and prevent network outages, ensuring better service reliability at a lower cost (Forrester, 2023). These technologies enable companies to reduce operational expenses while maintaining high service standards, giving them a cost advantage over competitors that have not yet adopted similar technologies.

In the highly competitive telecom market, building customer loyalty is essential for long-term success. Companies that can retain customers through superior service, branding, and customer experience gain a significant competitive advantage, as acquiring new customers is often more expensive than retaining existing ones.

Providing exceptional customer service is one of the most effective ways to build loyalty in the telecommunications sector. Companies that invest in improving their customer support infrastructure, including omnichannel support (phone, online, and in-store) and personalized service, are more likely to retain customers. For instance, T-Mobile has differentiated itself in the U.S. market by offering superior customer service and transparent pricing. The company consistently ranks highly in customer satisfaction surveys, thanks in part to its "Un-carrier" initiative, which eliminates traditional pain points like data overage fees and long-term contracts (J.D. Power, 2023). This focus on customer experience has allowed T-Mobile to build a loyal customer base and gain a competitive advantage over rivals like AT&T and Verizon.

Telecom companies also benefit from brand loyalty and ecosystem lock-in. By offering a suite of interconnected services, such as mobile, broadband, and TV, companies can create an ecosystem that encourages customers to stay within their brand. The more services a customer uses from the same provider, the less likely they are to switch, even if competitors offer lower prices or new features. For example, AT&T offers bundled services that include mobile plans, internet, and TV through DIRECTV. Customers who subscribe to multiple services within the AT&T ecosystem are less likely to switch to a competitor because doing so would require changing several interconnected services at once. This strategy creates a form of "lock-in," where customers are more likely to remain loyal to the brand over the long term (Harvard Business Review, 2023).

Telecom companies are increasingly partnering with tech firms to integrate new technologies into their services. These partnerships allow telecom companies to leverage the expertise of tech giants, while tech companies gain access to telecom networks and customers. For example, Verizon has partnered with Amazon Web Services (AWS) to offer 5G edge computing services, combining Verizon's 5G network with AWS's cloud infrastructure. This partnership allows Verizon to offer low-latency cloud services to industrial clients, creating a new revenue stream and enhancing its competitive position . Similarly, Orange has partnered with Google Cloud to accelerate its digital transformation and offer advanced AI and cloud services to its customers.

Mergers and acquisitions (M&A) are another way telecom companies gain a competitive advantage. By acquiring smaller competitors or merging with other firms, companies can increase their market share, reduce competition, and achieve economies of scale.

For instance, the merger of T-Mobile and Sprint in 2020 created a stronger competitor to AT&T and Verizon in the U.S. market. The combined company was able to leverage Sprint's spectrum assets to enhance its 5G network, giving it Competitive Advantage in the Telecommunications Sector (Zadeh Bazargani & Kiliç 2021).

The telecommunications sector has undergone significant transformation over the past few decades, driven by rapid technological advancements, changing consumer behavior, and increasing competition. The need for a competitive advantage is more pressing than ever, as telecommunications companies (telcos) navigate a landscape characterized by new entrants, regulatory shifts, and disruptive innovations such as 5G, Internet of Things (IoT), and cloud computing.

Competitive advantage in the telecommunications industry can be defined as a company’s ability to outperform its rivals through distinct strategies or assets. This essay explores how

telcos develop and sustain competitive advantages by leveraging technological innovation, cost efficiency, customer loyalty, strategic partnerships, regulatory navigation, and operational agility.

Organizations are facing cut-throat competition in this competitive age. Research has consistently demonstrated that competition drives growth in telecommunications investment and usage. Waverman, Meschi, and Fuss (2005) identified competition as a crucial regulatory policy for developing mobile telecommunications in both advanced and emerging markets. Gutiérrez (2003) found that "the opening of the market to more competition and the free entry of private investors in basic telecommunications services will propel network expansion and efficiency across the sector" in his examination of telecommunications development in Latin America. Hamilton (2003) concluded that competition in mobile services has significantly boosted telecommunications penetration in Africa. Similarly, Wallsten (2004) discovered that shielding incumbent operators from competition led to "a significant decrease in the incumbent's investment in the telecommunications network, payphones, mobile telephone penetration, and international calling" in his study on telecommunications competition in developing nations. In the U.S., Aron and Burnstein (2003) established that competition between telecom firms and cable companies served as the most effective catalyst for increased broadband penetration. Gruber and Denni (2005) echoed this conclusion two years later, noting that the resale of a telecom company's broadband service can also enhance penetration during the early stages of competition. Furthermore, Lee and Marcu (2007) found that both wireless and wireline broadband competition positively impacted broadband development in developed and developing countries, particularly emphasizing the benefits of intermodal competition.

1.2 Agility

Goldman et al. (2001) introduced the concept of an agile enterprise strategy, defining an agile organization as one that remains profitable in a constantly changing environment while adapting to unpredictable consumer behaviors. Dove (2006) suggested that an organization's level of agility depends on the balance of four dimensions: cost, time, quality, and scope. Organizational agility is influenced by aligning "competitive bases" such as speed, flexibility, proactive innovation, quality, and profitability, along with reconfigurable resources and knowledge. To enhance their agility, companies must combine these factors and adapt to evolving consumer needs and market conditions (Fasnacht & Proba, 2024).

Regarding the distinction between organizational flexibility and agility, Yusuf et al. (2020) highlighted that flexibility serves as a fundamental enabler of organizational agility, particularly emphasizing the importance of speed. Various compelling factors drive organizations to improve their agility, including shifting customer preferences, escalating product competition, technological advancements, and the pursuit of competitive advantage. The challenges posed by technological innovation compel organizations to adopt agile practices to enhance performance (Lomas, 2015). There are three types of agility

1**.2.1 Operational Agility :** Operational agility refers to an organization's ability to rapidly adapt and respond to changes in its environment, market conditions, or internal processes. It emphasizes flexibility, speed, and innovation in adjusting business operations, which helps companies stay competitive, meet customer demands, and capitalize on opportunities (Zaki, 2008).

1.2.2 Partner-Related Agility: Supply chain agility, often referred to as partner-related agility, is a crucial component of an organization's capacity to react to modifications and interruptions in its supply chain. It entails establishing trusting relationships with suppliers and utilizing their talents and resources to raise the caliber of services and goods ((Rajabian Tabesh et al., 2015).

1.2.3 Customer-Related Agility: It refers to a company's ability to rapidly and effectively respond to changing customer needs, preferences, and behaviors. This agility involves adapting products, services, and business processes to meet evolving demands in real-time. It encompasses flexibility in customer service, customization of offerings, and speed in responding to market changes. Businesses with high customer-related agility are better equipped to foster customer loyalty and satisfaction in dynamic markets (Overby et al., 2006; Accenture, 2021).

1.3 Innovation

In today’s competitive business environment, companies that fail to innovate risk losing their market relevance and even their survival. Major corporations have faced rapid declines in market share because they did not recognize in time that consumer needs and preferences had shifted. This failure often stems from neglecting to track industry trends and market shifts, allowing competitors, including start-ups and new entrants, to introduce innovative products and services that resonate with evolving consumer expectations. For instance, companies like

Kodak and Blockbuster struggled to adapt to technological advancements, resulting in significant losses and market exits (Christensen et al., 2016).

Innovation refers to the creation of new ideas, methods, products, or services that result in tangible improvements, adding value by increasing efficiency, effectiveness, or solving unmet consumer needs (Dougherty, 2020). It is not merely about creating new products but also about enhancing operational processes and business models to achieve greater effectiveness and efficiency (Schilling, 2024). Innovation improves product quality and variety, and often reduces costs by introducing new, cost-effective technologies. This form of innovation-driven efficiency—termed dynamic efficiency—plays a crucial role in improving social welfare, surpassing traditional concepts like allocative and productive efficiency. Dynamic efficiency, focusing on continuous improvement and adaptation, is essential for industries where consumer needs and technologies rapidly evolve (Tirole, 2017).

The telecommunications sector is a prime example of a dynamic industry, characterized by a rapid pace of technological innovation and continuous improvement in service offerings. Telecommunications companies are subject to sector-specific regulations but must innovate at high speed to maintain competitiveness. Two core types of innovation in this sector include innovation in new services and innovation in network infrastructures. Service innovation, typically driven by telecom operators, focuses on developing new offerings such as advanced data services or mobile applications. In contrast, network infrastructure innovations are largely spearheaded by equipment manufacturers who develop new technologies like 5G, fiber optics, and advanced satellite systems (Yeşil & Doğan, 2019). These infrastructure innovations are then adopted by operators, often requiring careful timing and investment due to the high costs and risks involved (Garrido-Moreno et al., 2024).

The adoption of new technologies in telecommunications involves a complex decision-making process. Companies must weigh the benefits of early adoption against the financial risks and operational challenges that come with implementing new infrastructure. Early adoption can provide a competitive edge, but it may also entail high upfront costs and technological uncertainty (Yeşil & Doğan, 2019). For instance, the global rollout of 5G infrastructure is a case in point. Many telecom operators have faced challenges regarding when and how to adopt this technology, balancing the potential for improved connectivity with the substantial investment required for deployment (McKinsey Company, 2021).

The global nature of competition in telecommunications further intensifies the pressure to innovate. Companies that fail to invest in cutting-edge technologies risk falling behind their rivals who capitalize on next-generation networks to deliver faster, more efficient, and more

reliable services. Furthermore, as consumer preferences continue to shift toward data-driven services, the importance of both service and infrastructure innovation becomes more apparent (Schilling, 2020). Research has shown that companies investing heavily in research and development (R&D) to innovate tend to have better long-term market performance, particularly in technology-driven industries like telecommunications (Tirole, 2017).There are two types of Innovation

1.3.1 Radical Innovation. It refers to breakthrough innovations that represent a significant departure from existing products, services, or processes. These innovations often create new markets or drastically change existing ones by introducing novel technologies or business models. Radical innovation is typically associated with high risk but can lead to substantial competitive advantages and market leadership (Garcia & Calantone, 2002; Christensen, 2016).

1.3.2 Incremental Innovation. It involves small, continuous improvements to existing products, services, or processes. These innovations are less risky and focus on refining and enhancing existing offerings rather than creating entirely new ones. Incremental innovation helps companies maintain competitiveness by gradually improving efficiency, quality, or performance (Garcia & Calantone, 2002; Govindarajan & Trimble, 2010).

1.4 Corporate social responsibility

Corporate social responsibility is a concept whereby organization considers the interest of society by taking responsibility for the impact of their actions on customers, suppliers, employees, shareholders and all other stakeholders as well as the environment (Freeman, 2023). A single globally definition does not exist because the concept is still evolving. The concept is always being redefined to serve changing needs and time.

Corporate social responsibility is a balancing act where organizations tread the line between sustainability and social responsibility. This means the concept is about organizations contributions to better society, and a shared value with key stakeholders. “Corporate social responsibility embraces two major concepts – accountability and transparency .in modern time, stakeholders expect organizations to perform well in non-financial areas that involve human rights, business ethics, environmental programs, corporate donations, society growth, corporate supremacy, miscellany and workplace issues”(Meghan conolly,2024).

1.5 Environmental management.

Environmental Management refers to the systematic approach that organizations use to minimize their negative impact on the environment. This includes the responsible use of natural resources, pollution prevention, waste reduction, and the implementation of sustainable practices. Environmental management strategies often involve compliance with environmental regulations, continuous monitoring of environmental performance, and the adoption of eco-friendly technologies to ensure long-term sustainability (Schaltegger & Burritt, 2018; UN Environment Programme, 2020).Environmental issues are gradually becoming one of the most potent concerns of firms due to market pressures and the introduction of stringent environmental regulations by governments (Nechaeva et al., 2024). Environmental management practices (EMP) refer to a set of skills and strategies adopted by firms with the aim of monitoring and managing the effect of their operations on the natural environment (Montabon et al., 2007). These practices greatly enhance a firm's environmental performance, by minimizing the adverse effects of the firm's operations on the environment (e.g. Tyteca, 1996; Ulubeyli, 2013). Reducing ecological effects, such as reduction of pollutants, resource discount rates, a reduction in the consumption of hazardous materials, reduction of the regularity of ecological disaster, and rise in conformity with ecological requirements implies good outcomes for the ecosystem (Zhu & Sarkis, 2023).

The relationship between agility, innovation, and corporate social responsibility (CSR) plays a pivotal role in enhancing competitiveness within the telecommunication service sector. Agility enables telecom companies to swiftly adapt to market changes and evolving consumer demands, ensuring they remain responsive to customer needs and technological advancements. Innovation, both radical and incremental, drives the development of new services and improvements to existing ones, fostering differentiation and customer loyalty. Simultaneously, a strong commitment to CSR can enhance a company's reputation, attract socially conscious consumers, and build trust in the brand. By integrating agility and innovation with CSR initiatives, telecommunications companies can create a sustainable competitive advantage, positioning themselves as leaders in a rapidly evolving industry while addressing environmental and social concerns that resonate with today's consumers.

1.6 Purpose of the study

Organizational, environmental, and technological aspects work together to define how well an organization perform, claimed (Qalati, Li, Ahmed, Mirani, & Khan, 2021). Furthermore, other variables, such as organizational agility, innovation capability and

corporate social response influence the association in an organizational performance to gain competitiveness in telecommunication sector. Telecommunication service sector is one of biggest sector in regards of number of hired employees, business and ROI. It is an agile and innovative sector which believes in corporate social responsibility. The purpose of this study is to evaluate the effects of agility, innovation, and corporate social responsibility on competitive advantage in the telecommunication services sector. This study focuses on the telecommunications service sector, one of the most popular industries globally and in Pakistan in particular. The study identifies the Relationship of Agility, Innovation and Corporate Social Responsibility with the competitive advantage of telecom companies.

In the rapidly evolving telecommunications service sector, maintaining competitiveness requires firms to be agile, innovative, and socially responsible. However, there is limited comprehensive research that examines how these three critical factors—agility, innovation, and corporate social responsibility (CSR)—collectively influence a company's competitiveness. To fill this gap, developing a new questionnaire was essential for several reasons.

Existing questionnaires that explore these factors often fail to capture the specific challenges and opportunities faced by telecommunication service providers. Generic tools may overlook sector-specific nuances, such as the rapid adoption of new technologies like 5G, the importance of network reliability, or the increasing regulatory focus on digital inclusion. Therefore, a new questionnaire is necessary to gather relevant, industry-specific data that can better explain how agility, innovation, and CSR collectively influence competitiveness in this context.

Moreover, the interrelationship between these constructs must be explored in a more integrated way. For example, a company's agility may enhance its capacity for innovation by enabling quicker adjustments to market demands or technological shifts. At the same time, CSR initiatives may strengthen a company's market position by improving its brand reputation, attracting socially conscious consumers, and complying with government regulations. A new questionnaire would allow researchers to measure not only the individual effects of agility, innovation, and CSR but also their combined impact on a firm's competitive position.

The evolving competitive landscape in telecommunications further underscores the need for updated research tools. The industry's rapid technological advancements, such as the integration of artificial intelligence and the expansion of the Internet of Things (IoT), have transformed the drivers of competitiveness. Companies must be agile to adopt and implement these innovations while also maintaining a strong CSR presence to meet the growing

expectations of regulators and consumers for sustainable and responsible business practices. The outdated instruments currently available may not fully reflect these changes, making it necessary to develop a new questionnaire that is both valid and reliable within the context of modern telecommunications.

Finally, the development of a new questionnaire provides an opportunity to contribute to both academic research and industry practice. For researchers, this tool can fill a gap in the literature by offering a comprehensive, empirically tested instrument to explore the combined effects of agility, innovation, and CSR on competitiveness. For industry professionals, the insights gained from such a questionnaire can inform strategic decision-making, allowing companies to identify areas where they can enhance their agility, foster innovation, or strengthen CSR efforts to maintain or improve their market position. Therefore, creating a new questionnaire is essential for understanding these dynamics and their impact on competitiveness in the telecommunication service sector.

1.7 Research rationale

Literature shows that a number of studies have been done in past to determine the relations of agility, innovation and somehow the corporate social response (CSR) in different industries as hotel industry, Small and Medium-sized Enterprises etc. but Nobody has combined innovation, agility, and corporate social response (CSR) to link with competitive advantage of companies using mediator factor of environmental management in the telecommunications services sector. The study will highlight that how the three variables i.e., agility, innovation and CSR associate with competitive advantage in telecommunication service sector of Pakistan. Environmental Management is one of the most pressing issues facing the world today, and this subject provides room for future investigation.

1.8 Significance of the Study

The telecommunication services sector is one of the most dynamic and rapidly evolving industries, requiring companies to constantly adapt to technological advancements, regulatory changes, and shifting consumer demands. While numerous studies have examined the individual relationships between agility, innovation, and corporate social responsibility (CSR) in various sectors such as the hotel industry and Small and Medium-sized Enterprises (SMEs), there remains a significant gap in understanding how these three critical variables interact to influence competitive advantage in the telecommunications sector. Furthermore, no study has

yet explored how environmental management serves as a mediating factor in this relationship within the telecommunications services sector.

This study is essential because agility—the ability to respond rapidly to changes, innovation—the process of adopting new technologies and creating novel solutions, and CSR—which involves the company's commitment to social and environmental responsibilities, are increasingly recognized as key drivers of organizational success. However, the interplay between these variables and their combined impact on competitive advantage in the telecommunications sector has not been adequately investigated. This gap is particularly notable in the context of Pakistan's telecommunication industry, which is growing rapidly and faces unique challenges related to market dynamics, regulatory pressures, and consumer expectations.

Adding to the significance of this research, environmental management has emerged as a global priority, with companies across all sectors being pressured to adopt sustainable practices. The telecommunications sector, given its energy-intensive infrastructure and environmental footprint, faces increasing scrutiny regarding its environmental impact. Therefore, understanding how environmental management mediates the relationship between agility, innovation, CSR, and competitive advantage is not only timely but also critical for companies aiming to achieve long-term success in an increasingly eco-conscious world.

By investigating these relationships, this study will provide valuable insights into how companies in the telecommunication services sector of Pakistan can leverage agility, innovation, and CSR—while incorporating environmental management practices—to gain a competitive edge. The findings will contribute to the existing body of literature by offering a holistic view of these interconnected variables and their role in shaping organizational competitiveness. Moreover, the study opens avenues for future research, particularly in exploring the broader implications of environmental management as a mediator across various sectors and regions.

Secondly the development of the questionnaire has several fold significance. This questionnaire will fill a critical gap in the literature by providing a comprehensive tool specifically designed for the telecommunications sector, which has not been adequately explored in terms of the combined impact of agility, innovation, and CSR on competitiveness. While these variables have been studied individually in other industries, the lack of an integrated approach in telecommunications underscores the importance of this research. The questionnaire will provide researchers with a reliable and valid instrument to gather empirical data, enabling further analysis of the dynamic interactions between these variables. By

investigating these relationships, this study will contribute to the understanding of how companies can build and maintain a competitive edge in the face of technological and environmental challenges.

For telecommunication companies, the questionnaire will offer a valuable diagnostic tool that can help identify strengths and areas for improvement in their competitive strategies. In a rapidly changing and highly competitive industry, agility allows companies to respond quickly to technological advances and market shifts, while innovation drives the development of new products, services, and business models. CSR, particularly in areas related to environmental sustainability and community engagement, is increasingly becoming a differentiating factor that influences customer loyalty, brand reputation, and regulatory compliance. By using the questionnaire, companies will gain actionable insights into how these factors affect their competitiveness and what strategies they need to adopt or enhance to stay ahead of their competitors.

One of the unique aspects of this questionnaire is its potential to integrate environmental management, a pressing global issue, into the study of competitiveness in telecommunications. As companies are under growing pressure to adopt sustainable practices, understanding how CSR and environmental management contribute to competitive advantage is essential. The questionnaire will enable telecommunication companies to assess how their environmental initiatives, such as reducing energy consumption or managing e-waste, influence their market position, customer satisfaction, and long-term sustainability. This will not only promote better environmental practices but also highlight the role of CSR in enhancing competitiveness in the sector.

The findings derived from the questionnaire will empower decision-makers in telecommunication companies to make informed strategic choices. By identifying how agility, innovation, and CSR contribute to competitiveness, managers will be better equipped to allocate resources, prioritize investments, and develop strategies that align with their company's goals. Furthermore, the questionnaire can help track the effectiveness of current initiatives in these areas, providing a foundation for continuous improvement and long-term strategic planning.

The questionnaire will serve as a foundational tool for future research, allowing scholars to conduct cross-industry comparisons or longitudinal studies on the evolving role of agility, innovation, and CSR in business competitiveness. Additionally, it can be adapted for use in other sectors, thus extending its applicability beyond telecommunications. By developing a questionnaire that is both rigorous and adaptable, this research will open new avenues for

exploring how businesses across various industries can leverage these critical factors to drive sustainable competitive advantage.

1.9 Research Question

1. What is the relationship between agility and competitive advantage in the telecommunication sector?
2. What is the relationship between innovation and competitive advantage in the telecommunication sector?
3. What is the relationship between Corporate Social Responsibility and competitive advantage in the telecommunication sector?
4. How does environmental management mediate the relationship between agility, innovation and corporate social responsibility with competitiveness?

1.10 Research objectives

The objectives are as follows:

1. To investigate the relationship between agility and competitive advantages in the telecommunication service sector.
2. To determine the relationship between innovation and competitive advantages in the telecommunication service sector.
3. To explore the relationship between Corporate Social Responsibility CSR and competitive advantages in telecommunication service sector.
4. To investigate the mediating role of environmental management on agility, innovation and CSR with competitiveness in the telecommunication sector.

CHAPTER 2: LITERATURE REVIEW

Numerous research on organizational performance, agility, and innovation are now available in the literature. The literature review in Pakistan's setting indicated the need to further investigate the connections between agility, innovation, and CSR in the telecommunications sector.In previous study the two variables i.e. agility and innovation etc. have been taken together and conducted different studies in different industries. No single studies show the three-variable agility, innovation and CSR altogether to know their impact on competitive advantage in telecommunication industry. These aspects hold significant importance in the ever-evolving business environment of today. Organizations continually strive to enhance their performance, adjust to fluctuations, and encourage innovation to sustain competitiveness. Investigating the relationships between these three variables—agility, innovation, and corporate social response—is an intriguing research area. This can shed light on how these factors interact and impact competitive advantage among the telecommunications industry in Pakistan. It's notable that there have been studies examining agility and innovation in various industries, but it seems that there is a gap in the literature regarding the simultaneous consideration of all three variables (agility, innovation, and corporate social response) in the context competitive advantage of the telecommunications industry in Pakistan.

2.1 Competitiveness

Competitiveness at the individual level “Competitiveness is the ability and willingness to outperform others—or at least better one’s own performance—at the individual micro-level” (Baumann & Harvey, 2018). A good starting point to understand competitiveness at the individual level is Horney’s (1937) theory of neurosis. Horney described hyper competitiveness as an individual’s need to win over others at all costs in order to maintain or enhance their feelings of self-worth. Horney also noted that hyper competitiveness develops from parental discipline early in life. Hypercompetitive individuals tend to focus on winning at all costs and have a desire to develop a positive self-image compared to others. In a similar vein, Sampson described competitiveness as a form of individualism. Sampson claimed that competitiveness is shaped by self-contained individualism that is characterized by distinctions between the self and others, which in turn makes it easier for the individual to justify being competitive in relation to other people . Development of a competitive orientation, which is shaped during childhood and makes an individual seek personal benefits over others. This view of individualism parallels point of view that hypercompetitiveness is rooted in parents’ disciplinary practices. Overall, competitiveness is that focus on the self as being more than

others which makes individuals maximize their personal outcomes (Vilanova, Lozano and Arenas, 2008)

In the broader literature, competitiveness is referred to as an important individual differences variable that influences behaviour across a wide variety of social domains and interpersonal relationships (Fong, Zhao, & Smillie, 2021; Houston et al., 2005; Houston et al., 2002; Spurk, Keller, & Hirschi, 2019). Indeed, competitiveness has been studied across a broad range of interpersonal situations under competitive conditions such as sports (Duda, Olson, & Templin, 1991; Houston, Carter, & Smither, 1997; Vaughan & Madigan, 2020), school (Dweck, 1986; Johnson, Johnson, & Anderson, 1983; Krskova & Baumann, 2017), and the work environment (Brown, Cron, & Slocum, 1998; Karatepe et al., 2006; Swab & Johnson, 2019).

A multidimensional construct although early research on competitiveness viewed competitiveness as a onedimensional aspect that focuses on an individual's desire to win and surpass others, scholars have since suggested that competitiveness is a multidimensional construct (Hibbard, 2000; Newby & Klein, 2014; Orosz et al., 2018). For example, Griffin-Pierson (1990) differentiated two components of competitiveness: interpersonal competitiveness and goal competitiveness. Interpersonal competitiveness is defined as the desire to win in interpersonal situations and the enjoyment of interpersonal competition while goal competitiveness is defined asthe desire to excel and be the best that one can be (Griffin-Pierson, 1988). The two types of competitiveness are not completely exclusive as these concepts are viewed as an individual's dispositional tendencies to perceive achievement situations in a certain manner. Franken and Brown (1995) differentiated two constructs of competitiveness as the "desire to win" and the "desire to perform well," which shows that there are different individual motivations behind competitiveness. Similarly, Hibbard and Buhrmester (2010) discussed two types of competitiveness, "competing to win," reflecting the desire to surpass others, and "competing to excel" to surpass one's personal goals. A major line of work exploring the multidimensional construct of competitiveness established the concept of competitiveness orientations by introducing HC and PDC (Ali, 2011)

Ryckman et al. defined HC as "a need to compete and win at any cost as a means of maintaining or enhancing the feeling of self-worth", while PDC is defined an attitude in which the primary focus is on personal growth and the mastery of a task . PDC has also been discussed as the "need to perform well" and "task-oriented competition" While some individuals are motivated to establish superiority over others (i.e., HC), other individuals are motivated to

improve their own performance (i.e., PDC; Roberts, Treasure, & Hall, 1994). In other words, individuals are motivated not only by a "desire to win but also by a "desire to excel" (Barrick, Stewart, & Piotrowski, 2002).

In the automobile manufacturing process, costs are attached to various steps of production. Due to the segregation of the production process, costs are identified in relation to each function of the manufacturing process. The fundamental cost elements of the production process are the labour costs, inventory costs including raw materials, work in process, finished goods, and overhead costs (Guerra, Eichman, Kurtz, & Hodge, 2019). All these elements are later transferred into cost of goods sold to achieve the gross margin for the accounting period (Horngren et al. 2009). To achieve cost competitiveness the manufacturer needs to achieve a high amount of revenue on vehicle sales. Furthermore, the manufacturer could adopt a strategy to manage its cost leadership to maximize its profits. Robert Kaplan (1983) initially identified the costs in the manufacturing environment as either financial or non-financial. The financial measures of cost performance are understood as the financial ratios, for instance, the profitability ratios, return on assets, and return on investment. Whilst the non-financial measures 54 are qualified as productivity, quality, inventory costs, product leadership and manufacturing flexibility, including using new technology in the production process. He further identified problems with measurement of cost performance of manufacturing firms in United States (U.S.) in comparison to Japanese manufacturing firms. The latter is characterized by lower labor and inventory costs, long-term manufacturing cost advantage, higher quality of products and higher productivity in the manufacturing process (M.L. Nechaeva et al., 2024). Therefore, cost competitiveness to some extent is translated into the manufacturers' financial performance. This is attributed to the fact that profitability incorporates the cost elements of production and can indicate the efficiency of management. Furthermore, liquidity and solvency can be used to represent the cost-related operational performance of automobile manufacturers (Lebreton and Tuma 2006; Ramcharran 2024). For manufacturers in the automobile industry to manage effective cost performance (meaning achieving cost reductions while maximizing revenue and profit), Droge et al. (2000) states that the critical factors for success are competitive advantage, cost reduction and enhanced profitability. In a differentiation strategy a firm seeks to be unique in its industry along some dimensions that are widely valued by buyers (Alcocer-Ruthling, Thill and Shafii 2019). It selects one or more attributes that many buyers in an industry perceive as important, and uniquely positions itself to meet those needs. It is rewarded for its uniqueness with a premium price. After the companies decide the pricing objectives,

they should choose the most appropriate pricing method to reach these targets. Objectives indicate the direction of the firm in pricing, while the pricing method defines the steps and procedures for determining prices. When pricing methods of goods and services are investigated, it is possible to mention three pricing methods which are mainly cost based, demand based and competition based (Nugues and Bak, 2016). Demand Based Pricing: These methods, emerging with new marketing approaches are noteworthy because consumers are held in the foreground. Price is determined by the consumer's demand for goods and services. The success of demand-based pricing depends on the ability of firms to analyze the demand. The firm tries to determine the price by considering the value, loyalty level and demand elasticity attributed to the product by the consumer. After the demand is analyzed, pricing is decided according to the consumers' willingness to pay. Price differentiation in demand-based pricing method is mainly due to the fact that each consumer has different willingness to pay. Consumers are grouped by identifying their reactions to price differences and the same goods are sold to different groups at different prices (Gârleanu, Pedersen and Poteshman, 2009).

2.2 Agility

Literature shows that an organizational agility is important for adaptation and change-response (Amit, 2002). Factors including the consumer, market, and technology all have an impact on agility. The concept of agility is linked to the traits of flexibility and adaptability (Sherehiy B. K., 2007). (B. Sherehiy, 2007) created the concept of organizational agility is grounded in the principles of organizational flexibility and adaptation. In an organizational context, agility encompasses both flexibility and adaptation. Organizations can successfully leverage constantly changing digital technology by being agile (Vial, 2019). Therefore, the company that increases its agility will have the chance to try out new technology. Additionally, agility is a key factor in driving digital transformation in firms (Ciampi, 2022). Moreover, in the current landscape where everything is undergoing constant change and integration of technology, several studies suggest that agility is crucial for businesses to successfully navigate the transition to digital technologies (Bodwell, 2010).

Academics that specialize in business literature have studied organizational agility from a range of angles and aspects, including worker agility (Patil, 2019), management agility (Buganová, 2019), manufacturing agility (Schuh, 2019), and marketing agility (Khan, 2020). (Nsour, 2021) Claims that building organizational agility skills is essential for every learning-oriented company that wants to be the best at providing computer and phone services. A theoretical paradigm put out by (Zhang, 2000) can be implemented through three key stages: agile drivers, flexible capabilities, and agile suppliers. (Zhang, 2000) defined agility

drivers as environmental changes that affect how firms operate and motivate them to maintain their competitive advantage.

When formulating corporate strategies, strategic agility enables one to be more receptive to external circumstances and quickly rearrange the business in the face of uncertainty (Doz & Kosonen, 2010). The dynamic adjustment of a firm's resources and competencies can be summed up as strategic agility (Reed, 2021). Strategic agility helps businesses adapt to change and increase their competitiveness (Vagnoni & Khoddami, 2016). Due to the way it is structured, the idea of strategic agility has gained acceptance in the literature and has recently risen to the top of the list of subjects to emphasize (Kale, Aknar, & Basar, 2019). A concept that can adapt to changes is strategic agility (Sherehiy, Karwowski, & Layer, 2007). (Gunasekaran, Agile Manufacturing: A Framework for Research and Development, 2019) further says that the capacity to prosper and adjust in a volatile, cutthroat, and ever-changing environment is known as organizational agility. It entails reacting quickly to changing markets and being aware of what consumers want and need—whether they are for goods or services. Another scholar (Yusuf, 2020) discussing organizational agility, the successful use of competitive concepts like speed, adaptability, innovation, and quality is a common topic of discussion. This is accomplished by combining resources and reorganizing best practices in the framework of technological expertise, which leads to the delivery of goods or services that satisfy the needs of clients in a setting that is changing quickly. Organizational agility can be cultivated through multiple factors, including people, innovation, and technology, to boost overall performance (Yauch, 2011). It equips organizations to thrive amid uncertainty and dynamic changes (Tsourveloudis, 2016). In technology-driven companies, technology agility specifically enhances the organization's capacity to adapt rapidly to changes (Zaki, 2008).

Agility has become a defining characteristic for businesses across various industries, and it is particularly critical in the telecommunications sector. The telecommunications industry is rapidly evolving, driven by technological advancements such as 5G, the Internet of Things (IoT), cloud computing, and increased demand for data services. In this context, agility refers to a company's ability to quickly respond to market changes, customer needs, and technological innovations, while also maintaining operational efficiency and competitiveness (Inta Hartaningtyas Rani et al., 2024).

Agility in the telecommunications industry is not limited to technology but also involves organizational flexibility. Telecom companies are increasingly adopting agile methodologies and flexible organizational structures to foster a culture of continuous innovation and quick

decision-making. Many telecom companies have adopted agile project management frameworks that emphasize iterative development, cross-functional collaboration, and rapid response to change. By breaking down large projects into smaller, manageable tasks, telecom companies can respond more quickly to customer feedback and market trends. For example, Vodafone has implemented agile practices across its operations, allowing for quicker deployment of new services and products (Forrester, 2023). By using agile methodologies, the company has shortened product development cycles and improved its ability to adapt to customer needs. The COVID-19 pandemic has accelerated the shift toward more flexible work environments, forcing telecom companies to rethink their traditional organizational models. The ability to enable remote work for employees and support digital operations has become a critical factor in maintaining business continuity and ensuring agility. T-Mobile, for instance, successfully transitioned a significant portion of its workforce to remote operations during the pandemic, while continuing to provide uninterrupted services to its customers (Telecoms, 2023). By adopting cloud-based tools and digital platforms, T-Mobile was able to maintain operational efficiency and remain agile during a period of unprecedented disruption. Digital transformation plays a central role in enhancing agility within the telecommunications industry. Through the adoption of digital tools and platforms, telecom companies can automate routine tasks, streamline operations, and respond more quickly to customer demands. Automation and artificial intelligence (AI) are becoming integral to the operations of agile telecom companies. Automation helps reduce human error, speed up routine tasks, and optimize network performance, while AI can be used to predict network failures, analyze customer data, and personalize services. Telefonica has implemented AI-based automation tools to manage its network infrastructure, resulting in faster response times to network issues and improved service reliability (IDC, 2023). By automating routine tasks such as network monitoring and maintenance, Telefonica has been able to focus its resources on higher-value activities and improve its overall agility. An agile telecom company must also provide a seamless and responsive digital customer experience. Consumers expect instant access to information, personalized services, and quick issue resolution. By investing in digital customer support platforms, such as AI-powered chatbots and self-service portals, telecom companies can improve their responsiveness to customer needs. Orange has embraced digital transformation by integrating AI and data analytics into its customer service operations, allowing the company to offer more personalized experiences and resolve customer issues faster (Gartner, 2023). This focus on digital transformation not only enhances customer satisfaction but also improves the company’s ability to adapt to changing market conditions. In the telecommunications sector,

agility is often measured by a company's ability to anticipate and meet customer demands. As consumers demand more personalized, flexible, and reliable services, telecom companies must be agile in their approach to customer engagement and service delivery. To remain agile, telecom companies must offer personalized services that cater to the specific needs of individual customers. By leveraging customer data and analytics, companies can tailor their offerings based on usage patterns, preferences, and location. BT Group has utilized data analytics to segment its customer base and offer personalized packages, resulting in higher customer satisfaction and reduced churn (Forrester, 2023). This focus on personalization allows BT to remain agile in responding to customer needs and providing targeted solutions. In addition to personalization, telecom companies are increasingly adopting flexible pricing and subscription models to cater to diverse customer preferences. Offering a range of pricing options, such as pay-as-you-go plans, subscription-based services, and bundled packages, allows telecom companies to attract and retain customers in a competitive market. Telstra, one of Australia's largest telecom companies, has introduced flexible subscription plans that allow customers to switch between different data packages without penalties, providing greater flexibility and responsiveness to consumer demands (IDC, 2023).

The capacity to quickly adjust and improve routine procedures and operations is known as operational agility. It entails streamlining processes, cutting red tape, and effectively executing changes to adapt to shifting consumer needs or market conditions. A key component of an organization's overall agility is operational agility. It enables a business to react quickly to alterations in its operational environment, such as changes in market circumstances, consumer preferences, or outside variables like legislative changes. A business can maintain a competitive edge and provide superior service to its consumers by having effective procedures, flexible systems, and a workforce that can adjust to these changes (Joiner, 2019).

2.1.1 Operational Agility

Operational agility is a crucial capability for organizations in today's dynamic and competitive environment. It enables firms to adapt their operations swiftly to changing market conditions, customer preferences, and technological advances. Scholars have increasingly focused on this concept as industries face unprecedented levels of uncertainty and disruption (Sambamurthy et al., 2021). Operational agility involves an organization's ability to sense changes in the external environment and respond effectively to maintain competitiveness (Teece et al., 2018). The concept is rooted in the dynamic capabilities' framework, which highlights a firm's ability to

integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece, 2007). This agility is not just about speed but also about adaptability, innovation, and efficiency in executing operations.

Recent studies have emphasized that operational agility is multi-dimensional, involving process flexibility, workforce agility, and technological adaptability (Bustinza et al., 2019). Process flexibility refers to the ability of a firm to modify its operational processes without significant costs or delays, enabling it to pivot when market conditions demand. Workforce agility, on the other hand, focuses on the ability of employees to switch roles, learn new skills, and adapt to changing job requirements. Lastly, technological adaptability reflects how organizations leverage technology to streamline operations and enhance responsiveness (Holweg et al., 2020).

In highly competitive and volatile industries, operational agility has been linked to improved performance outcomes. A study by Bustinza et al. (2019) found that firms exhibiting higher levels of operational agility were better equipped to handle disruptions such as supply chain interruptions or unexpected shifts in demand. This capability also enhances customer satisfaction, as agile firms can tailor their offerings more closely to customer needs in real time (Overby et al., 2020).

The role of digital technologies in fostering operational agility has been a focal point of recent research. Digital tools such as cloud computing, artificial intelligence, and data analytics provide real-time insights and predictive capabilities that enhance a firm's ability to react swiftly to market shifts (Liu et al., 2021). For example, the integration of advanced data analytics allows organizations to forecast demand more accurately, adjust production schedules, and optimize resource allocation, thus increasing operational efficiency and responsiveness.

However, operational agility is not without its challenges. While it enhances responsiveness, it requires significant investments in technology, training, and process redesign (Holweg et al., 2020). Moreover, organizations must manage the balance between maintaining flexibility and avoiding inefficiencies or chaos that might arise from too much decentralization (Sambamurthy et al., 2021).

In conclusion, operational agility is a vital strategic capability that enables firms to navigate uncertainty and maintain competitive advantage. As markets continue to evolve rapidly, organizations that invest in developing agile processes, leveraging digital technologies, and

fostering a culture of adaptability will likely outperform their competitors in the long run.In traditional hierarchical structures, decision-making is often slow due to the various layers of approval required. However, in agile organizations, decisions are decentralized and placed closer to the teams that interact directly with the customer or market. This decentralization empowers employees at all levels to make decisions based on real-time information, ensuring that the organization can respond rapidly to changes. According to a McKinsey study, companies that exhibit higher levels of agility significantly outperform their less agile counterparts in terms of revenue growth and innovation output (McKinsey, 2023). Decentralization not only speeds up decision-making but also fosters a culture of accountability and ownership within teams. Cross-functional collaboration is another hallmark of agile organizations. In traditional models, departments such as marketing, sales, product development, and customer service often operate in silos, which creates inefficiencies and slows down the flow of information. Agile organizations, on the other hand, form cross-functional teams that bring together diverse skill sets to work on shared goals. These teams operate autonomously and are responsible for delivering specific outcomes, which allows for faster execution and improved innovation. Research shows that organizations that encourage cross-functional teamwork are better equipped to handle complex problems and adapt to rapidly changing market conditions (IMD, 2024).

In addition to decentralization and cross-functional collaboration, agile organizations also foster a strong learning culture. Continuous learning is critical to agility because it ensures that employees remain updated with the latest industry trends, technologies, and customer preferences. Agility is not just about responding to change; it is about anticipating change and preparing for it proactively. By embedding learning into daily workflows, agile organizations create an environment where experimentation, creativity, and innovation thrive. For instance, companies like Google have institutionalized practices like the “20% time” initiative, where employees can spend a portion of their workweek on personal projects. This practice has led to the creation of some of the company’s most successful products, including Gmail and Google Maps (IMD, 2024). Encouraging experimentation and learning allows employees to take calculated risks, which fuels innovation and positions the organization at the forefront of industry advancements. Technological enablement is another critical component of organizational agility. In today’s digital age, agile organizations leverage technology to drive operational efficiency, enhance customer experiences, and make data-driven decisions. The integration of digital tools allows for real-time communication, transparency, and faster

execution. For example, project management software such as Jira or Trello helps teams track progress, collaborate seamlessly, and respond quickly to changes in project scope or objectives. Furthermore, the use of analytics tools enables organizations to monitor market trends, customer behavior, and operational performance, which informs decision-making and strategic planning. By adopting digital tools, organizations can reduce bottlenecks in their workflows and ensure that they are better equipped to respond to unforeseen challenges (Scaled Agile Framework, 2023). Customer-centricity is a core principle of agility. Agile organizations put the customer at the center of everything they do, ensuring that products and services are continuously refined based on customer feedback. This iterative approach not only improves customer satisfaction but also reduces the risk of product failure. Traditional models often focus on delivering a finished product to the market after an extended period, whereas agile frameworks, such as Scrum, emphasize shorter development cycles with frequent iterations based on user feedback. This process ensures that any misalignments with customer expectations are identified and corrected early on, reducing the likelihood of costly product failures (McKinsey, 2023). While the benefits of organizational agility are clear, the path to becoming agile is not without its challenges. One of the main obstacles is cultural inertia. For organizations with a long history of hierarchical, top-down decision-making, shifting to an agile model requires a fundamental change in mindset. Resistance to change can come from both employees and leaders who are accustomed to traditional ways of working. Leaders, in particular, may struggle to relinquish control and empower teams to make autonomous decisions. To overcome these challenges, organizations need to invest in training, coaching, and change management initiatives that align their workforce with agile values and practices (Agile by Design, 2024). Another challenge is maintaining a balance between agility and long-term strategic planning. While agility emphasizes rapid decision-making and flexibility, organizations must also ensure that their agile initiatives are aligned with their broader strategic objectives. A common pitfall for organizations attempting to become agile is focusing too much on short-term gains, which can result in fragmented efforts and a lack of coherence between different parts of the organization. Successful agile organizations strike a balance by ensuring that agility serves as a means to achieve their long-term vision rather than an end in itself (McKinsey, 2023).

Resource allocation is another critical aspect of agility. Agile organizations must ensure that they have the right resources—whether in terms of talent, technology, or capital—to support their agile initiatives. For instance, adopting new digital tools or restructuring teams to

be more agile may require significant upfront investment. However, organizations that fail to invest in these resources risk falling behind in their agility journey. A 2023 study by McKinsey emphasized the importance of targeted investment in critical areas such as digitalization, sustainability, and employee development to ensure that agile transformations yield long-term value (IMD, 2024). The role of leadership is paramount in fostering organizational agility. Agile leadership differs from traditional leadership models in that it emphasizes servant leadership, where leaders focus on empowering and supporting their teams rather than controlling them.

Agile leaders act as facilitators, providing the resources, guidance, and autonomy that teams need to succeed. Additionally, agile leaders are adaptable, willing to pivot when necessary, and comfortable with ambiguity. This adaptability allows agile organizations to remain resilient in the face of uncertainty and disruption (Scaled Agile Framework, 2023). Leaders must also play a key role in setting the vision for agility by clearly communicating how agile practices align with the organization's overall mission and strategic goals. In conclusion, organizational agility has emerged as a critical capability for companies navigating the complexities of the modern business environment. By fostering a culture of decentralized decision-making, cross-functional collaboration, continuous learning, and customer-centricity, agile organizations are better equipped to respond to change, drive innovation, and maintain a competitive advantage. However, achieving agility is not without its challenges. Organizations must overcome cultural inertia, ensure alignment between agility and long-term strategy, and invest in the resources needed to support agile initiatives.

Leadership plays a crucial role in championing agility and ensuring that it becomes deeply embedded in the organization's culture. As businesses continue to face unprecedented disruptions and rapid technological advancements, those that embrace agility will be well-positioned to thrive in the years ahead. In order to shorten lead times and improve flexibility, operational agility frequently entails supply chain management, production procedures, and logistics optimization. To ensure that the business can quickly change its plans and tactics, it may also entail implementing agile approaches in project management and decision-making. In today's fast-paced business climate, operational agility is essential to an organization's ability to prosper and maintain resilience in the face of unpredictability and rapid changes. (Ameen, 2023)

2.1.2Customer Related Agility

Customer Agility is a critical concept in contemporary business research and practice. The ability of a corporation to adapt and react to the changing demands, preferences, and behaviors of its consumers is known as its competitive advantage (Kalaignanam et al. 2020) .This dynamic capability is becoming increasingly important in today's business environment, where customer expectations and market conditions are constantly evolving. Researchers have identified several factors that contribute to cocompetative advantage, including technology capability, knowledge management, and organizational structure. These elements are essential for an organization to effectively understand and serve its customers in a rapidly changing landscape. Additionally, the study shows that Competitive Advantage (CA) has a significant impact on businesses. It may enhance business performance and support competitive initiatives, giving an organization a long-term competitive edge. Market perspective (how the market views the organization) and customer perspective (how customers view the organization) are both directly impacted by CA's success. This highlights the customer-centric nature of CA and its influence on overall business success. The statement emphasizes the need to systematize the CA framework. This suggests that while there is research on various aspects of CA, there may be an opportunity to create a more comprehensive and structured framework that integrates these elements into a cohesive concept (Jacobs et al., 2010).

In today’s dynamic business landscape, customer-related agility has emerged as a critical capability for organizations striving to remain competitive. Defined as the ability to rapidly adapt and respond to changing customer needs and market conditions, customer-related agility is not merely a tactical approach; it represents a fundamental shift in how businesses engage with their customers. According to Riemann and Möller (2020), organizations that effectively harness customer-related agility can align their offerings more closely with consumer expectations, fostering loyalty and driving growth. The importance of customer-related agility cannot be overstated. As consumers become increasingly empowered by technology and information, their preferences evolve rapidly. Businesses that can swiftly pivot in response to these changes not only enhance customer satisfaction but also gain a significant competitive edge. Research by Bhatia and Sharma (2021) indicates that companies prioritizing agility in their customer engagement strategies report higher levels of customer retention and satisfaction. This highlights that agility is not merely a reactionary measure; it is a proactive strategy that can shape the customer experience. One key component of customer-related agility is the implementation of effective customer feedback mechanisms. Organizations that actively solicit

and analyze customer feedback can better understand their needs and preferences. This can be accomplished through various channels, including surveys, social media monitoring, and direct customer interactions.

Chen et al. (2023) emphasizes that businesses leveraging advanced analytics to process customer feedback are better equipped to anticipate trends and tailor their offerings accordingly. This proactive approach allows companies to innovate continuously, ensuring that they remain relevant in a fast-paced market. Cross-functional teams are another critical element of customer-related agility. The adoption of agile methodologies promotes collaboration across departments, facilitating quicker decision-making and response times to customer demands. Kahn and Mentzer (2022) argue that breaking down silos within an organization enhances communication and fosters a culture of collaboration. This collaborative environment not only improves the speed of product development but also allows teams to incorporate diverse perspectives, leading to more comprehensive solutions that resonate with customers. Data analytics plays a pivotal role in enabling customer-related agility. Organizations that effectively utilize data analytics can gain deep insights into customer behavior, preferences, and emerging trends. By leveraging big data, companies can create personalized experiences that cater to individual customer needs. As highlighted by Chen et al. (2023), firms employing advanced data analytics report significantly higher customer satisfaction rates compared to their counterparts. This demonstrates that a data-driven approach is essential for organizations aiming to enhance their agility and responsiveness to customer demands. Implementing customer-related agility requires a shift toward a customer-centric culture. Companies must prioritize customer feedback in their strategic decision-making processes. Sweeney et al. (2022) emphasize that fostering a customer-centric culture not only empowers employees to take ownership of customer interactions but also ensures that customer insights inform every aspect of the business. This cultural shift necessitates training and development programs aimed at equipping employees with the skills needed to engage effectively with customers and understand their needs. Flexible supply chains are another critical aspect of achieving customer-related agility. Organizations must develop supply chains that can swiftly adapt to fluctuations in demand. Kumar and Singh (2023) suggest that businesses should leverage technology to enhance supply chain visibility and responsiveness. This can involve adopting just-in-time inventory practices and utilizing predictive analytics to forecast demand accurately. By creating a more agile supply chain, organizations can minimize lead times and inventory costs while ensuring that they meet customer expectations promptly. Despite the numerous

advantages associated with customer-related agility, several challenges can hinder its implementation.

One significant obstacle is resistance to change within organizations. Employees may be accustomed to traditional processes and practices, making them reluctant to adopt new methodologies that promote agility. Miller (2022) argues that effective change management strategies are essential for overcoming this resistance. Leaders must communicate the benefits of agility clearly and provide the necessary training and resources to support employees during the transition. Resource limitations can also pose challenges to smaller organizations attempting to implement customer-related agility. Patel et al. (2023) notes that many small and medium-sized enterprises (SMEs) struggle to allocate the financial and human resources required for agile initiatives. These organizations often face constraints that can hinder their ability to invest in advanced technologies and training programs. However, even SMEs can adopt agile practices by leveraging existing resources and focusing on incremental changes that enhance customer engagement. Several case studies illustrate the successful implementation of customer-related agility in leading organizations. Zara, the fast-fashion retailer, exemplifies agility through its ability to adapt its inventory based on real-time customer feedback. Ghemawat and Nueno (2022) highlight how Zara's agile supply chain allows it to respond rapidly to changing fashion trends, ensuring that it meets customer demands while minimizing excess inventory. This ability to pivot quickly not only enhances customer satisfaction but also strengthens Zara's position in the competitive fashion market Similarly; Amazon has set a benchmark for customer-related agility in e-commerce. The company's relentless focus on customer experience drives its innovations and operational strategies. Smith (2023) notes that Amazon continuously analyzes customer data to personalize recommendations and streamline its services. This data-driven approach enables Amazon to anticipate customer needs and deliver tailored experiences, further solidifying its market leadership. The benefits of customer-related agility extend beyond customer satisfaction; they also encompass organizational resilience and long-term sustainability.

Organizations that embrace agility can better navigate uncertainties and disruptions in the market. By remaining attuned to customer needs, businesses can pivot their strategies to capitalize on emerging opportunities, ensuring their continued relevance in a rapidly evolving landscape. In conclusion, customer-related agility is a vital capability for organizations seeking to thrive in an increasingly competitive marketplace. By implementing effective customer feedback mechanisms, fostering cross-functional collaboration, leveraging data analytics, and

promoting a customer-centric culture, businesses can enhance their responsiveness to changing customer needs. Despite the challenges associated with resistance to change and resource limitations, the successful implementation of customer-related agility can lead to improved customer satisfaction, loyalty, and overall organizational performance. The case studies of companies like Zara and Amazon illustrate the tangible benefits of agility, reinforcing the need for organizations to prioritize customer engagement as a central component of their strategic initiatives. As the business environment continues to evolve, organizations that embrace customer-related agility will be better positioned to succeed in meeting the demands of an ever-changing market landscape.

In practice, organizations that prioritize Customer Agility are better equipped to identify emerging trends, meet customer demands, and stay ahead of competitors. They tend to have more customer-centric cultures and are more adaptable in their strategies and operations. As the corporate environment keeps changing, it's likely that Customer Agility will remain a key focus area for companies looking to maintain a competitive advantage and drive long-term success. Systematizing the framework for CA can provide a clearer roadmap for organizations to develop and enhance this critical capability. (Wang Junfeng, 2022).

In the contemporary business environment, characterized by rapid technological advancements and shifting market dynamics, partner-related agility has become a crucial capability for organizations. This concept refers to the ability of firms to effectively collaborate with partners—such as suppliers, distributors, and service providers—in a flexible and responsive manner. Partner-related agility is essential for navigating complexities in supply chains and adapting to changes in customer demands. According to Aitken et al. (2021), organizations that cultivate agility in their partnerships can enhance innovation, improve operational efficiency, and achieve better overall performance. The significance of partner-related agility is underscored by the increasing interdependence of organizations in today’s globalized economy. As companies engage in more collaborative arrangements, the need for agility in these relationships becomes paramount. Research by Ahlstrom and Karp (2022) highlights that agile partnerships allow firms to share resources and knowledge, leading to faster response times and improved adaptability. This collaborative mindset not only fosters innovation but also enables organizations to leverage the strengths of their partners to meet evolving market demands. One of the key elements of partner-related agility is effective communication. Open and transparent communication channels facilitate the exchange of information, which is vital for understanding partner capabilities and aligning objectives. In a

study by Dyer and Singh (2020), the authors emphasize that organizations with strong communication practices are better positioned to respond to market changes and capitalize on new opportunities. Effective communication also helps in building trust between partners, which is essential for fostering long-term relationships that can withstand challenges. Trust is another critical component of partner-related agility.

When organizations trust their partners, they are more likely to share valuable information and resources, leading to collaborative problem-solving and innovation. Research by Zaheer et al. (2021) indicates that trust among partners significantly enhances the overall performance of collaborative ventures. This trust is built over time through consistent interactions and shared experiences, making it vital for organizations to invest in nurturing their partnerships. Flexibility in contractual agreements is also essential for fostering partner-related agility. Traditional contracts may impose rigid terms that hinder responsiveness to changing conditions. According to Kauffman and Lee (2023), organizations should adopt more flexible contracts that allow for adjustments based on market dynamics. This flexibility enables partners to adapt quickly to unforeseen circumstances, such as supply chain disruptions or shifts in consumer preferences, ultimately enhancing their collaborative capabilities. Moreover, technology plays a significant role in facilitating partner-related agility. Digital tools and platforms enable organizations to streamline communication, data sharing, and project management with their partners. Research by He et al. (2022) suggests that companies leveraging digital technologies to enhance their partnerships can achieve higher levels of agility and responsiveness. For instance, cloud-based collaboration tools allow real-time information sharing, making it easier for partners to align their efforts and respond swiftly to changing conditions.

Another critical factor in partner-related agility is the alignment of strategic objectives between partners. When organizations share common goals and objectives, they are more likely to collaborate effectively. Research by Gnyawali and Park (2020) indicates that aligned strategic objectives lead to better resource utilization and enhanced collaborative outcomes. Organizations should invest time in understanding their partners' goals and ensuring that their objectives complement one another, which fosters a more cohesive and agile partnership. Managing risk is also an integral aspect of partner-related agility. Collaborating with external partners inherently involves risks, such as dependency on suppliers or exposure to market fluctuations. To mitigate these risks, organizations must engage in proactive risk management practices. As highlighted by Choi and Krause (2021), firms that implement comprehensive risk management strategies in their partnerships are better equipped to navigate uncertainties and

maintain agility. This can involve diversifying the partner portfolio or establishing contingency plans to address potential disruptions. A further dimension of partner-related agility is the continuous improvement of collaborative processes. Organizations should regularly assess their partnership effectiveness and seek opportunities for enhancement. According to Dyer (2023), implementing feedback mechanisms allows organizations to gather insights on partnership performance and identify areas for improvement. This commitment to continuous improvement not only enhances operational efficiency but also fosters a culture of learning and adaptation within the partnership. Case studies of successful organizations illustrate the effectiveness of partner-related agility. For instance, Procter & Gamble (P&G) has long been recognized for its collaborative approach to partnerships. The company's Connect + Develop initiative emphasizes open innovation by inviting external partners to contribute to product development. This initiative has enabled P&G to leverage external expertise and resources, leading to faster innovation cycles and improved product offerings (Dyer & Nobeoka, 2022). Such collaboration highlights the importance of agility in fostering innovative solutions and meeting customer needs.

Similarly, the automotive industry has witnessed significant transformations through agile partnerships. Companies like Toyota have adopted collaborative approaches with suppliers to enhance production efficiency. According to Womack et al. (2023), Toyota's just-in-time production system relies heavily on agile partnerships with suppliers that can quickly respond to production changes. This agility not only improves inventory management but also allows Toyota to deliver high-quality vehicles that meet customer demands. The COVID-19 pandemic further highlighted the necessity of partner-related agility as organizations faced unprecedented disruptions. Firms with agile partnerships were better able to adapt to supply chain challenges and shifts in consumer behavior. A report by McKinsey (2021) found that companies that invested in agile partnerships during the pandemic reported stronger recovery outcomes. This underscores the critical role of partner-related agility in enhancing organizational resilience and adaptability in times of crisis. However, achieving partner-related agility is not without its challenges. Organizations may encounter difficulties in aligning objectives, managing expectations, and navigating cultural differences among partners. According to Aitken et al. (2021), organizations must invest in relationship-building activities and engage in regular communication to overcome these challenges. Building a strong foundation of trust and mutual understanding is essential for fostering agile partnerships that can thrive in an ever-changing environment. Furthermore, the role of leadership cannot be overlooked in promoting partner-

related agility. Leaders must champion a culture of collaboration and innovation, empowering teams to engage with partners effectively. As highlighted by Gnyawali and Park (2020), leadership commitment to agile practices significantly influences the success of partnerships. Leaders should also provide the necessary resources and support for teams to engage in collaborative initiatives, ensuring that agility becomes ingrained in the organizational culture.

2.1.3 Partner Related Agility

Partner-related agility is a vital capability for organizations aiming to thrive in a complex and dynamic business environment. By fostering effective communication, building trust, and promoting flexibility in contractual agreements, firms can enhance their collaborative capabilities. Leveraging technology, aligning strategic objectives, and engaging in proactive risk management further contribute to partner-related agility. The successful case studies of organizations like Procter & Gamble and Toyota illustrate the tangible benefits of agile partnerships in driving innovation and operational efficiency. As organizations continue to navigate uncertainties, investing in partner-related agility will be crucial for sustaining competitiveness and achieving long-term success. Supply chain agility, often referred to as partner-related agility, is a crucial component of an organization's capacity to react to modifications and interruptions in its supply chain. It entails establishing trusting relationships with suppliers and utilizing their talents and resources to raise the caliber of services and goods. When the idea of Supply Chain Agility (SCA) is examined and its applicability in today's corporate environment, it becomes evident that study on the topic has been ongoing for about 20 years. This emphasizes its continued importance in the field of supply chain management. SCA is widely accepted as a critical component that significantly enhances an organization's performance and serves as a competitive advantage. Companies with agile supply chains are better equipped to thrive in turbulent and intensely competitive environments. The importance of SCA is particularly pronounced in global markets. Globalization has introduced complexities and uncertainties in supply chains, making agility even more critical. Businesses operating in different regions and dealing with diverse customer demands need agile supply chains to adapt effectively. One significant benefit of an agile supply chain (ASC) is its ability to efficiently synchronize supply and demand. ASCs are able to quickly adjust to variations in consumer demands, market circumstances, and disturbances, guaranteeing the best possible match between supply and demand (Piccoli et al., 2009c). Organizational past performance is characterized by agility in addressing existing challenges (Dove, 2010). An organization's

resources enable swift responses to change and uncertainties, which are essential for maintaining sustainability and enhancing performance (Goldman, 2007).

In today's dynamic and globally advancing environment, organizations must overcome performance barriers to preserve their competitive edge (Magretta, 1998). Employees play a crucial role in maintaining organizational agility, as they are often required to react quickly to changes and uncertainties (Proops, 2011). Agile systems are vital for sustaining organizational performance and competitiveness (Senge, 2009). The skills and motivation of employees are fundamental to the success of agile organizations (Womack, 2014). Innovation agility, in particular, helps organizations meet customer expectations in changing trends and fashions (Goleman, 2009), addressing challenges related to sales through continuous processes.

In today's competitive market, where volatile changes in customer demands and supply disruptions are prevalent, organizations must sense and respond quickly to remain competitive (Antony, 2010). The ability to respond rapidly to uncertain conditions allows firms to maintain performance smoothly, even under competitive market pressures (Ambec, 2008). Agile firms possess the resilience to withstand upheavals while maintaining production and performance levels (De Waal, 2007). In Pakistan's telecom market, where multiple competitors vie to satisfy and retain customers, understanding how organizational agility impacts performance is crucial. Organizational agility is a critical concept as it assesses a firm's ability to respond quickly to uncertainties. This adaptability enables organizations to respond swiftly and efficiently to unforeseen circumstances by leveraging their resources. Uncertainties in the business world are inevitable, especially due to technological advancements and innovations that significantly affect organizational performance. Human resources (HR) are a vital asset in addressing technological uncertainties and innovation challenges. In competitive markets, organizations must adapt to changes and advancements to stay competitive (Poole, 2012). HR agility plays a pivotal role in enhancing organizational performance by optimizing business operations (Bassellier, 2009).

Organizations invest in their workforce by equipping them with the necessary skills and knowledge to handle uncertainties as they arise (Ciborra, 2011). However, when organizations plan to implement new technologies, employees often show resistance to adoption (Davis, 2009). In the Pakistani telecom sector, five major telecom service providers dominate the market. These companies constantly focus on achieving competitive advantage. Pakistan Telecommunication Company Limited (PTCL) was once a key player in the Pakistani market,

but technological advancements and innovations posed significant challenges when it was the sole major service provider. Between 2004 and 2005, 49% of the company became affected by a lack of organizational agility in response to technological progress and innovation trends. By 2008, the challenges posed by technological advancements forced telecom companies to adopt agility to address these changes effectively. The literature highlights numerous advantages of agility, including improving an organization's autonomy, enhancing its performance, boosting long-term efficiency, and strengthening its ability to gain a competitive edge. Companies aiming to improve their performance should consider key concepts such as agility and innovation capability (Al-Hawary, 2021). In today's competitive landscape, businesses must contend with intense competition, driven by customer preferences, product competition, technological innovations, and the pursuit of competitive advantage.

Technological advancements and innovation challenges compel organizations to embrace agility strategies to improve performance (Lomas, 2015). Technology agility enhances the ability of technology-driven companies to adapt quickly to rapidly changing environments (Zaki, 2008). Information technology is necessary for businesses to adopt the latest technological advancements (Bessant, 2008). In recent years, the relationship between organizational agility, innovation, and long-term success has gained significant attention (Appelbaum, 2017). Harraf (2015) asserts that organizational agility varies across firms and is influenced by internal structures, industry standards, systems, and processes. Environmental turbulence, driven by regulatory changes, market volatility, intense competition, and technological disruptions, poses significant challenges for organizations.

The rapid pace of technological innovation and intense competition, characterized by shifting customer preferences, behaviors, and demographic trends, are the primary drivers of this volatility (Librita Arifiani, 2020). Environmental turbulence directly impacts organizational performance, requiring firms to act swiftly to mitigate potential losses. Following the "trigger point" logic, management must respond rapidly based on the firm's strategic response model to address emerging challenges effectively (Kipley, 2012).

In conclusion, innovation is not just a driver of growth but also a key determinant of survival in today's rapidly evolving market environment. In the telecommunications industry, the interplay between service and network infrastructure innovation is critical to maintaining competitive advantage. Successful companies are those that not only recognize the need for continuous innovation but also carefully manage the risks and timing associated with adopting

new technologies. As dynamic efficiency continues to play a significant role in enhancing social welfare, businesses must prioritize innovation as an integral part of their strategic planning to meet evolving market demands and remain competitive.

2.3 Innovation

Innovation in telecommunication companies is critical for enhancing customer experiences, improving operational efficiency, and staying competitive in a rapidly evolving digital landscape. As consumer demands increase and technology advances, telecommunications firms are compelled to adopt innovative practices to meet these challenges. According to ITU (2023), the global telecommunications sector is undergoing a transformation characterized by the integration of new technologies such as 5G, artificial intelligence (AI), and the Internet of Things (IoT). These innovations not only provide enhanced services but also enable telecom companies to optimize their operations and explore new business models. One of the most significant innovations in telecommunications has been the deployment of 5G technology. This next-generation mobile network offers higher speeds, lower latency, and the capacity to connect a larger number of devices simultaneously. Research by Zhang et al. (2022) indicates that 5G technology is expected to revolutionize various sectors, including healthcare, transportation, and entertainment, by enabling applications such as telemedicine, autonomous vehicles, and augmented reality (AR). Telecommunication companies that invest in 5G infrastructure position themselves to tap into new revenue streams and enhance their service offerings. For example, Verizon and AT&T have launched extensive 5G networks across the United States, providing customers with improved connectivity and new applications that leverage the enhanced capabilities of the network (Smith, 2023). Artificial intelligence has emerged as a powerful tool for telecommunications companies seeking to enhance customer service and streamline operations. AI technologies, including machine learning and natural language processing, enable telecom firms to analyze vast amounts of data and gain insights into customer behavior.

A study by Gupta et al. (2023) reveals that AI-driven chatbots and virtual assistants are increasingly being utilized to provide 24/7 customer support, reducing response times and improving overall customer satisfaction. These AI solutions can handle routine inquiries, allowing human agents to focus on more complex issues. Furthermore, predictive analytics powered by AI can help telecom companies identify potential churn among customers, enabling them to implement proactive retention strategies (Jones, 2022). The Internet of Things has also

transformed the telecommunications landscape by creating opportunities for new services and applications. IoT devices, ranging from smart home devices to industrial sensors, rely on robust telecommunications networks to function effectively. According to a report by ABI Research (2023), the global IoT market is projected to reach over 50 billion connected devices by 2030, creating immense growth opportunities for telecom providers. Companies like Vodafone and Deutsche Telekom have embraced IoT solutions, offering services that enable businesses to monitor and manage their operations more efficiently. For instance, smart agriculture solutions leverage IoT sensors to optimize irrigation and crop management, demonstrating the potential of telecommunications innovation to address real-world challenges. Cloud computing is another area of innovation that has significantly impacted telecommunications. By leveraging cloud-based services, telecom companies can enhance their service delivery and operational efficiency.

According to a report by Gartner (2023), the adoption of cloud-native architectures allows telecom providers to scale their services more flexibly and efficiently, reducing the time it takes to deploy new applications and services. Companies like T-Mobile and Orange have adopted cloud technologies to streamline their operations and enhance their ability to deliver innovative services to customers. This shift toward cloud computing enables telecom firms to respond more quickly to market demands and technological advancements. The rise of digital services has also prompted telecom companies to innovate in their service offerings. The increasing demand for streaming services, online gaming, and remote work solutions has driven telecom providers to enhance their broadband and data services. Research by Pew Research Center (2023) shows that the demand for high-speed internet has surged, with consumers expecting reliable and fast connectivity to support their digital lifestyles. In response, telecom companies are expanding their fiber-optic networks and investing in next-generation broadband technologies to meet these expectations. For example, AT&T's investment in fiber-optic infrastructure aims to provide customers with faster and more reliable internet access, enabling them to fully leverage digital services. Moreover, innovation in telecommunications extends to sustainability efforts.

As concerns about climate change and environmental impact grow, telecom companies are increasingly focusing on sustainable practices. According to the Global System for Mobile Communications (GSMA, 2023), many telecom providers are adopting renewable energy sources and energy-efficient technologies to reduce their carbon footprint. Companies like Telefónica and Vodafone have committed to ambitious sustainability targets, including carbon

neutrality by 2030. By integrating sustainability into their business models, telecom firms not only address environmental challenges but also enhance their brand reputation and appeal to environmentally conscious consumers. In addition to technological innovations, telecommunication companies are also rethinking their business models to adapt to changing market conditions. The traditional revenue models based on voice and SMS services are being challenged by the rise of Over-the-Top (OTT) services such as WhatsApp, Skype, and Netflix. To compete effectively, telecom companies are exploring new revenue streams through partnerships and collaborations.

According to a study by Accenture (2023), many telecom providers are partnering with content providers and technology companies to offer bundled services that combine telecommunications with entertainment and digital solutions. This strategic shift allows telecom firms to create added value for customers while diversifying their revenue sources. Customer experience remains at the forefront of innovation in telecommunications. As competition intensifies, telecom companies are increasingly focused on delivering exceptional customer experiences to differentiate themselves in the market. Research by Deloitte (2023) indicates that companies that prioritize customer experience are more likely to retain customers and achieve higher levels of satisfaction. Innovations in user interfaces, personalized service offerings, and seamless customer journeys are becoming essential components of telecom strategies. For instance, many telecom providers are investing in customer relationship management (CRM) systems and data analytics to gain insights into customer preferences and behavior, allowing them to tailor their offerings accordingly. The integration of cybersecurity measures is another vital aspect of innovation in telecommunications. With the growing threat of cyberattacks, telecom companies must ensure the security of their networks and customer data. A report by Cybersecurity Ventures (2023) projects that cybercrime will cost businesses over $10 trillion annually by 2025, highlighting the urgency for telecom providers to enhance their cybersecurity frameworks. Innovations in encryption, secure network protocols, and advanced threat detection systems are being implemented to safeguard telecommunications infrastructure and protect customer information.

Companies like BT Group and AT&T are leading the way in cybersecurity innovation, investing in cutting-edge technologies to mitigate risks and enhance network resilience. Furthermore, the role of regulation and policy is crucial in shaping innovation within the telecommunications sector. Government policies and regulatory frameworks can either foster or hinder innovation. For instance, favorable regulations that promote competition and

investment in infrastructure can stimulate innovation. According to a study by the International Telecommunications Union (ITU, 2022), regulatory frameworks that encourage collaboration between telecom companies and technology providers can lead to the development of innovative solutions that benefit consumers. As governments continue to adapt their regulatory approaches to keep pace with technological advancements, telecom companies must navigate these changes while pursuing innovation. Innovation in telecommunications is essential for companies to thrive in an increasingly competitive and dynamic environment. The deployment of 5G technology, the adoption of artificial intelligence, and the integration of IoT devices are reshaping the industry and creating new opportunities for growth. Additionally, cloud computing, digital services, and sustainability efforts are driving operational efficiencies and enhancing customer experiences. By rethinking their business models and focusing on customer-centric innovation, telecom companies can navigate challenges posed by OTT services and changing consumer expectations. As the telecommunications landscape continues to evolve, companies that prioritize innovation will be better positioned to succeed in the digital age. Innovations can be considered as an essential input that allows organizations to distinguish themselves from their competitors in orders to gain a competitive advantage. Many authors have provided models to further help in the classification among innovations.

In this literature, innovations are classified by estimating the innovation impact on technology, market, customer, components or architecture; however, for the purpose of this thesis the model proposed by Henderson and Clark (1990) appears to be suitable: Henderson and Clark explained that innovation requires two types of knowledge, namely, components and linkages between components architecture. ‘The combination of component and architectural knowledge produces four kinds of innovation: (a) Incremental innovation, where both architectural and component Knowledge are enhanced simultaneously; (b) Radical innovation, where both types of knowledge) are ‘‘destroyed’’; (c) Architectural innovation, where component knowledge is enhanced but architectural knowledge is destroyed;(d) Modular innovation, where component knowledge is destroyed but architectural knowledge is enhanced’ (Popadiuka & Choob, 2006). Radical (creative) innovations are a driving force behind economic growth because they not only directly enhance productivity but also lay the groundwork for future innovations, generate spillover effects, create competitive advantages, generate employment, and improve the overall quality of life. Sustained economic growth and prosperity depend on promoting an inventive culture and supporting creative endeavors. Innovative ideas often result in significant gains in output and efficiency, simplifying

procedures, reducing expenses, and increasing the caliber and volume of products and services generated. This directly contributes to economic growth by enhancing the overall output of an economy.

2.2.1 Radical Innovation

Radical innovations can serve as a foundation upon which further innovations can be built. They often open new possibilities and avenues for research and development. Subsequent innovations can leverage the breakthroughs and technologies introduced by radical innovations, leading to a cumulative and accelerating effect on economic growth. Creative innovations tend to have spillover effects across various industries and sectors. When a groundbreaking technology or idea emerges, it can have applications beyond its original context. These spillover effects can lead to the development of entirely new industries or the revitalization of existing ones, generating economic opportunities and growth (Yeşil and Doğan, 2019).

Nations and businesses that lead in creative innovations gain a competitive advantage on the global stage. Being at the forefront of technological advancements and breakthrough ideas allows them to capture market share, attract investment, and drive economic growth by exporting innovative products and services. The process of innovation, especially radical innovation, often requires a highly skilled and specialized workforce. As new industries and technologies emerge, they create job opportunities in research, development, production, and related fields, contributing to employment and income growth. Creative innovations can lead to improvements in the quality of life. They can address pressing societal challenges, such as healthcare, education, and environmental sustainability, making life better for individuals and communities. Economies that prioritize innovation and allocate resources toward research and development demonstrate greater capability to adapt to evolving conditions and overcome obstacles. They are more resilient in the face of economic downturns and global disruptions (Daron Acemoglu, 2022). Radical innovation in telecommunications companies refers to groundbreaking changes that fundamentally alter the industry landscape, creating new markets or significantly disrupting existing ones. As consumer demands evolve and technology advances at a rapid pace, telecom firms are compelled to adopt radical innovations to maintain their competitive edge. This process often involves the introduction of novel technologies, business models, and service offerings that redefine how companies operate and engage with customers.

According to Christensen et al. (2023), radical innovation is characterized by its potential to displace established products and services, often resulting in substantial shifts in market dynamics. One of the most transformative innovations in telecommunications is the rollout of 5G technology. This next-generation wireless technology offers unprecedented speed, low latency, and the ability to connect a vast number of devices simultaneously. A report by Ericsson (2023) indicates that 5G is not merely an enhancement of existing mobile networks but a radical shift that enables entirely new applications and services, such as augmented reality (AR), virtual reality (VR), and advanced IoT solutions. Telecom companies investing in 5G infrastructure are poised to create new revenue streams by catering to emerging industries and enhancing user experiences. For instance, the integration of 5G in healthcare allows for remote surgeries and real-time patient monitoring, showcasing the potential of this technology to revolutionize sectors beyond telecommunications (Zhang et al., 2023).

Artificial intelligence (AI) is another area where radical innovation is reshaping the telecommunications landscape. AI technologies are being leveraged to optimize network operations, enhance customer service, and improve decision-making processes. According to Gupta et al. (2023), telecom companies are increasingly employing machine learning algorithms to predict network traffic, allowing for more efficient resource allocation and reduced downtime. Additionally, AI-powered chatbots and virtual assistants are transforming customer interactions by providing 24/7 support and personalized service experiences. This shift not only improves customer satisfaction but also reduces operational costs, enabling telecom firms to redirect resources toward innovation and growth. The advent of the Internet of Things (IoT) has also introduced radical changes in telecommunications. IoT encompasses a vast network of interconnected devices that communicate and share data over the internet, creating opportunities for new service offerings. Research by ABI Research (2023) predicts that the global IoT market will surpass 50 billion connected devices by 2030, presenting telecom companies with significant growth potential. Companies like Vodafone and Deutsche Telecom are capitalizing on this trend by offering IoT solutions that cater to industries such as agriculture, transportation, and smart cities. For example, smart agriculture solutions leverage IoT sensors to optimize crop management and irrigation, demonstrating how telecommunications innovation can address real-world challenges while creating new business opportunities.Cloud computing represents another dimension of radical innovation in telecommunications. By migrating to cloud-native architectures, telecom providers can enhance their service delivery and operational efficiency. Gartner (2023) highlights that cloud

technologies allow for greater scalability and flexibility, enabling companies to quickly deploy new services and respond to changing market conditions. This shift is particularly important as consumer expectations for fast and reliable services continue to grow. Telecom firms like T-Mobile and Orange have embraced cloud computing to streamline operations and deliver innovative solutions to their customers, thereby enhancing their competitive positioning in the market. Digital transformation is also a critical driver of radical innovation in telecommunications.

The proliferation of digital services, such as streaming platforms, social media, and online gaming, has reshaped consumer behavior and expectations. According to a study by Pew Research Center (2023), the demand for high-speed internet and reliable connectivity has surged as more consumers rely on digital services for entertainment, communication, and remote work. In response, telecom companies are investing in expanding their fiber-optic networks and deploying next-generation broadband technologies to meet these demands. Companies like AT&T are focusing on fiber-optic infrastructure to provide customers with faster and more reliable internet access, thereby positioning themselves as leaders in the digital space. Sustainability has become an increasingly important consideration in the telecommunications industry, prompting companies to adopt radical innovations aimed at reducing their environmental impact. As global awareness of climate change grows, telecom providers are recognizing the need for sustainable practices. According to the Global System for Mobile Communications (GSMA, 2023), many telecom companies are committing to renewable energy sources and energy-efficient technologies. For example, Telefónica has set ambitious sustainability goals, including a commitment to carbon neutrality by 2030. By integrating sustainability into their business models, telecom firms not only address environmental challenges but also enhance their brand reputation and appeal to environmentally conscious consumers. Moreover, the shift toward subscription-based models is another form of radical innovation in telecommunications. Traditional revenue models, primarily based on voice and SMS services, are being challenged by the rise of Over-the-Top (OTT) services like Netflix, WhatsApp, and Skype. To compete effectively, telecom companies are exploring new subscription-based models that bundle telecommunications services with digital content and applications.

Research by Accenture (2023) indicates that many telecom providers are partnering with content creators and technology firms to offer comprehensive packages that include streaming services, cloud storage, and cybersecurity features. This strategic shift allows telecom

companies to create added value for customers and diversify their revenue streams in an increasingly competitive market. Customer experience has become a focal point for radical innovation in telecommunications. As competition intensifies, telecom firms are prioritizing the delivery of exceptional customer experiences to differentiate themselves. According to Deloitte (2023), organizations that invest in customer experience initiatives are more likely to achieve higher customer satisfaction and retention rates. Innovations in user interfaces, personalized service offerings, and seamless customer journeys are essential components of telecom strategies. For instance, companies are utilizing data analytics and customer relationship management (CRM) systems to gain insights into customer preferences and behavior, enabling them to tailor their services accordingly. The integration of cybersecurity measures is also critical as telecommunications companies navigate the complexities of an increasingly digital world. With cyber threats on the rise, telecom providers must ensure the security of their networks and customer data. A report by Cybersecurity Ventures (2023) projects that cybercrime will cost businesses over $10 trillion annually by 2025, highlighting the urgency for telecom firms to bolster their cybersecurity frameworks.

Innovations in encryption, secure network protocols, and advanced threat detection systems are being implemented to protect telecommunications infrastructure and customer information. Companies like BT Group and AT&T are at the forefront of cybersecurity innovation, investing in cutting-edge technologies to mitigate risks and enhance network resilience. The regulatory landscape plays a crucial role in shaping radical innovation within telecommunications. Government policies and regulations can either foster or hinder innovation in the sector. According to the International Telecommunications Union (ITU, 2022), regulatory frameworks that promote competition and investment in infrastructure can stimulate innovation. As telecommunications technology continues to evolve, companies must navigate the complexities of compliance while pursuing innovative solutions. Favorable regulations that encourage collaboration between telecom companies and technology providers can lead to the development of innovative solutions that benefit consumers. In the context of radical innovation, partnerships and collaborations are becoming increasingly important. Telecommunications companies are recognizing that collaboration with technology firms, startups, and research institutions can accelerate innovation and drive growth. According to a report by PwC (2023), many telecom providers are engaging in open innovation initiatives that allow them to tap into external expertise and resources. By fostering a culture of collaboration, telecom companies can harness diverse perspectives and insights that contribute to

groundbreaking innovations. The COVID-19 pandemic further highlighted the importance of radical innovation in telecommunications. As remote work and digital communication became the norm, telecom companies were challenged to adapt quickly to the changing landscape. A report by McKinsey (2021) found that organizations that invested in digital transformation and agile practices during the pandemic reported stronger recovery outcomes. The ability to rapidly deploy remote services and enhance connectivity proved critical in maintaining business continuity and supporting customers during uncertain times.

Looking ahead, the future of radical innovation in telecommunications will likely be shaped by emerging technologies such as quantum computing and blockchain. These technologies have the potential to revolutionize telecommunications by enhancing data security, improving network efficiency, and enabling new applications. As research in these areas continues to advance, telecom companies must remain agile and open to exploring innovative solutions that can drive their growth and competitive positioning. In conclusion, radical innovation is essential for telecommunications companies seeking to thrive in a rapidly evolving industry. The deployment of 5G technology, the adoption of artificial intelligence, and the integration of IoT devices are reshaping the telecommunications landscape and creating new business opportunities. Additionally, cloud computing, digital transformation, and sustainability efforts are driving operational efficiencies and enhancing customer experiences. By rethinking their business models and prioritizing customer-centric innovation, telecom companies can navigate the challenges posed by OTT services and changing consumer expectations. As the telecommunications sector continues to evolve, organizations that embrace radical innovation will be better positioned to succeed in the digital age.

2.2.2 Incremental Innovation

Incremental innovation involves making small, gradual improvements to an existing product or process within the current technology cluster or framework. Incremental innovations aim to enhance the productivity, efficiency, or effectiveness of a product, service, or process (Lohse 2020). These improvements may involve refining existing features, reducing costs, increasing reliability, or optimizing performance. A technology cluster, as you mentioned, refers to a specific family of technologies that are closely related or interconnected. These technologies share common characteristics and may be used within a particular product line or industry. Incremental innovations occur within the boundaries of the existing technology cluster, which means that over time, the potential for significant breakthroughs or

improvements may diminish. As more incremental changes are made, the room for further enhancements within the existing framework becomes limited. Incremental innovation is often more sustainable and manageable for many organizations compared to radical or disruptive innovation. It allows companies to build on their existing knowledge and resources, reducing the risk associated with radical changes. Incremental innovations can lead to improved customer satisfaction by addressing specific pain points or enhancing the user experience. Customers often appreciate gradual improvements that make products more reliable or convenient. Continuously engaging in incremental innovation can help companies maintain a competitive edge in their respective markets. It allows them to stay up to date with evolving customer preferences and market trends.

While incremental innovations may face diminishing returns within a technology cluster, they also involve lower risks compared to radical innovations. Companies can experiment with new features or processes without overhauling their entire operations. Incremental and radical innovations are not mutually exclusive. In fact, incremental innovations can complement radical innovations by refining and optimizing the outcomes of groundbreaking technologies. Overall, incremental innovation is a valuable strategy for companies to pursue steady and sustainable improvements in their products, services, and operations. While it may have limitations in terms of achieving transformative breakthroughs, it remains an essential part of a company's innovation portfolio, particularly when it comes to maintaining and evolving existing offerings (Daron Acemoglu, 2022) The need for corporate social engagement has increased in the current complicated and multifaceted corporate environment due to global grand difficulties such urban transportation, poverty alleviation, violent conflict recurrence, and growing ecological disasters. As a result, companies today often emphasize how crucial it is to embrace socially and ecologically conscious policies in order to guarantee their continued prosperity. Furthermore, companies should invest in creative and social concerns in order to meet the expectations of all important stakeholders and establish credibility, as innovation is essential to a company's growth and competitive advantage (Orlando, 2020).

Businesses have expanded their search for a policy that will provide them a long-term competitive advantage because the competitive environment underwent a profound change at the start of the current decade as a result of globalization. According to these rules, businesses must continuously innovate in order to differentiate their products and processes (Brewer, 2010). The combination and balancing of dynamic capabilities, agility, and innovation favors the adoption and growth of environmental management which could raise an industry’s

competitiveness (López-Gamero, Agility, innovation, environmental management and competitiveness in the hotel industry, 2022). A great deal of change and unpredictable nature define an environment (Al-Hawary, 2021).

2.4 Corporate Social Responsibility

CSR, has long been seen as a worthwhile mandate that modern businesses should actively pursue for their own long-term benefit. (Kotler & Lee, 2005), CSR can be defined as the voluntary commitment of an organization to utilize its resources in promoting the health and well-being of the host community. It encompasses the management of a company's economic, environmental, and social responsibilities in society. Modern managers incorporate CSR into their business strategies to enhance their company's value and mitigate the negative impacts of their operations on the local and global economy. Development-oriented CSR can be defined operationally as company-led community-driven CSR programs designed to address complex socio-economic issues in developing countries with weak and ineffective political and regulatory frameworks. Development-oriented CSR aims to reduce tensions and unrest by means of social programs, projects, and compensation measures that businesses employ in order to help create a Business of Peace (BOP) within the communities in which they operate.

CSR is the promise that businesses make to improve the communities in which they operate. It comprises the voluntarily distribution of organizational resources in accordance with corporate guidelines and procedures. A holistic approach to corporate citizenship, CSR encompasses the management of social, environmental, and economic duties.

From a modern standpoint, CSR is no more merely a duty but rather a crucial component of an organization's overall business plan. Managers are beginning to see CSR as a way to boost their company's worth and broaden its influence on the economy at all levels, domestically and globally. The CSR is focused on development. This strategy entails businesses starting locally driven CSR projects to tackle intricate socioeconomic problems in emerging nations. It is particularly important in areas where political and regulatory institutions are weak or nonexistent. It is said that development-focused CSR helps to advance peace in working communities. Businesses can help ease tensions and agitations by implementing social projects, compensatory measures, and programs. This concept is consistent with the premise that community ties and social stability might benefit from CSR initiatives. The idea of a "business of peace" (BOP) posits that corporations can promote stable and peaceful environments within their operational regions by means of development-focused corporate social responsibility.

This illustrates the notion that CSR programs may benefit companies as well as the communities they serve.

The paragraph illustrates how CSR has evolved from a simple duty to a crucial element of corporate strategy. It specifically concentrates on the idea of development-oriented CSR, highlighting its applicability in areas facing socioeconomic difficulties. The paragraph emphasizes how CSR programs can promote community harmony and stability. This supports the idea that CSR may benefit businesses as well as society at large (Lukman Raimi, 2022).

CSR has emerged as a critical aspect of modern business strategy, influencing the way organizations operate and compete in today's dynamic market landscape. CSR encompasses the voluntary actions undertaken by businesses to address their social, environmental, and economic impacts, extending beyond mere compliance with regulations (Harjoto, 2021). It reflects a company's commitment to ethical practices and community engagement, aiming to create a positive societal impact while simultaneously enhancing its competitiveness. The connection between CSR and competitiveness is increasingly recognized by scholars and practitioners alike. Research has demonstrated that organizations actively engaged in CSR initiatives often enjoy enhanced reputations, stronger customer loyalty, and improved financial performance. A study by Porter and Kramer (2019) argues that CSR should not be seen as a cost or a charitable contribution but rather as a strategic investment that can drive innovation and open new markets. The competitive advantage derived from CSR arises from the alignment of business objectives with societal needs, fostering a symbiotic relationship between profit and purpose.

One of the key mechanisms through which CSR enhances competitiveness is by improving brand reputation. In an era where consumers are more conscious of corporate practices, companies that demonstrate social responsibility are often viewed more favorably. A survey conducted by Cone Communications (2020) revealed that 79% of consumers prefer to buy from brands that are socially responsible. This consumer preference can translate into increased brand loyalty and market share. When companies engage in CSR initiatives, they signal to consumers that they are committed to ethical practices, which can lead to heightened trust and stronger relationships.

CSR also plays a vital role in attracting and retaining talent. Today's workforce is increasingly motivated by values and purpose, seeking employers that align with their ethical

beliefs. According to Deloitte's 2022 Global Millennial and Gen Z Survey, 70% of millennials and Gen Z respondents prefer to work for socially responsible companies, even at the cost of lower salaries. Organizations that prioritize CSR not only enhance their attractiveness as employers but also experience higher employee morale, reduced turnover, and increased productivity. Companies like Unilever and Patagonia exemplify this trend, having successfully built strong employer brands through their commitment to sustainability and ethical practices.

Furthermore, CSR can drive innovation within organizations. Companies that invest in sustainable practices often discover new ways to improve their processes and products. This is particularly evident in industries facing pressure to reduce their environmental footprint. For instance, firms that adopt circular economy principles—focusing on minimizing waste and maximizing resource efficiency—often find that they can develop innovative solutions that meet consumer demands while simultaneously reducing costs. McKinsey (2021) highlights that companies with robust sustainability programs often achieve operational efficiencies that enhance their bottom line. By embedding sustainability into their core business strategies, organizations can differentiate themselves in a competitive marketplace.

In addition to driving innovation and brand loyalty, CSR initiatives can also enhance customer satisfaction. As consumers increasingly prioritize ethical consumption, companies that align their products and services with social responsibility are likely to see improved customer retention rates. For instance, a study by Nielsen (2015) found that 66% of consumers are willing to pay more for products from brands committed to positive social and environmental impact. This willingness to pay a premium reflects the growing demand for corporate transparency and accountability, underscoring the importance of CSR in building strong customer relationships.

Operational efficiency is another critical area where CSR can influence competitiveness. Organizations that implement sustainable practices often discover cost-saving opportunities through waste reduction and resource conservation. For example, companies that invest in energy-efficient technologies can significantly lower their operational costs while simultaneously reducing their environmental impact. A report by the World Economic Forum (2020) suggests that businesses that prioritize sustainability in their operations are better positioned to weather economic uncertainties, as they can adapt to changing market conditions more readily.

Moreover, effective CSR practices can serve as a risk management tool. Organizations that proactively address social and environmental issues are better equipped to mitigate risks associated with negative publicity, regulatory compliance, and consumer backlash. The KPMG Survey of Corporate Responsibility Reporting (2024) indicates that companies with robust CSR frameworks are more likely to be perceived positively by stakeholders, which can serve as a buffer against potential reputational damage. By embedding CSR into their corporate governance structures, organizations can navigate challenges more effectively and maintain their competitive edge.

The role of CSR in fostering stakeholder engagement cannot be overlooked. Companies that prioritize CSR initiatives often cultivate strong relationships with various stakeholders, including customers, employees, suppliers, and the communities in which they operate. Engaging with stakeholders through transparent communication and collaborative efforts can lead to a more resilient business model. Research from Harvard Business Review (2020) suggests that organizations that prioritize stakeholder engagement are better equipped to navigate crises and adapt to changing market conditions. This adaptability is essential for maintaining competitiveness in an increasingly volatile business environment.

Challenges do exist in implementing effective CSR initiatives. For many organizations, the upfront costs associated with CSR can be a barrier to entry. While the long-term benefits may outweigh these costs, the initial investment can be daunting, especially for small and medium-sized enterprises (SMEs). Additionally, measuring the impact of CSR efforts can be complex, as companies often struggle to quantify the benefits of their initiatives in monetary terms. This lack of clear metrics can make it difficult for organizations to justify CSR investments to stakeholders.

Furthermore, balancing the diverse interests of stakeholders can complicate CSR implementation. Organizations must navigate competing demands from shareholders, customers, and employees, all of whom may have different expectations regarding CSR priorities. Striking the right balance requires effective communication and stakeholder engagement strategies to ensure that all voices are heard and considered in decision-making processes.

As global challenges such as climate change and social inequality become more pressing, the role of CSR in organizational strategy is expected to evolve further. Companies are

increasingly recognizing that CSR must be integrated into their core business models rather than treated as a peripheral activity. Emerging trends such as social entrepreneurship, corporate activism, and digital responsibility will shape the future landscape of corporate social responsibility (Jeffrey, 2024). Companies that embrace these trends will likely gain a competitive advantage in a rapidly changing environment.

In conclusion, the relationship between corporate social responsibility and organizational competitiveness is multifaceted and increasingly recognized by businesses across various sectors. Companies that actively engage in CSR initiatives are well-positioned to enhance their brand reputation, attract top talent, drive innovation, and manage risks effectively. As societal expectations continue to evolve, organizations that view CSR as an integral part of their business strategy will be better equipped to thrive in the competitive landscape. By aligning their business objectives with societal needs, companies can create shared value that benefits both their bottom line and the communities they serve. Moving forward, the challenge lies in effectively measuring and communicating the impact of CSR initiatives, ensuring that they resonate with stakeholders and contribute to long-term organizational success.

This exploration of CSR and its relationship with organizational competitiveness highlights the importance of integrating responsible practices into core business strategies. As consumer awareness grows and the global landscape evolves, organizations that prioritize social responsibility will not only enhance their reputations but also secure their positions in increasingly competitive markets. The journey toward meaningful CSR requires commitment, transparency, and a willingness to adapt, but the rewards—both for businesses and society—are significant and far-reaching (Michaels & Grüning, 2018). The role of competitiveness on national and organizational performance has long been an area of interest to researchers. Research has revealed a relatively clear indication of positive associations between competitiveness and performance at the macro-level (i.e., the nation) and the meso-level. Typically, a firm with a competitive advantage has stronger performance, and nations with a competitive environment have better economic welfare (Porter, 2011). In accordance with the evolution of competitiveness theory (Cho & Moon, 2000), the role of “people” or the human factor (i.e., employees) has been discussed as a valuable source for the success of organizations and nations (Barney, 1991; Berger & Berger, 2011; Campbell, Coff, & Kryscynski, 2012). As businesses focus on competitiveness to perform better than their competitors, they require their people to act more competitively to achieve a high level of performance and beat their competition (Pfeffer, 1994). However, despite recent evidence suggesting the importance of

competitiveness at the micro-level (i.e., the individual) and its associations with performance (Baumann, Cherry, & Chu, 2019; Swab & Johnson, 2019; Worrell et al., 2016), the understanding of phenomena related to competitiveness at the individual level remains limited (Baumann & Harvey, 2021; Buitrago & Camargo, 2021).

2.5 Environmental Management

Environmental management is a main mediator in finding the impact of relationship of the three variables on competitive advantage of the telecommunications companies in Pakistan. The focus on environmental management is increasingly important due to sustainability concerns. Understanding how environmental management influence agility, innovation, and corporate social response to get competitive advantage within the telecommunications sector can provide valuable insights.

By conducting research that encompasses these three variables and their impact by taking their relationship with environmental management, the researcher has the opportunity to contribute to both academic knowledge and practical insights. The research's findings may have implications for how telecommunications companies in Pakistan approach sustainability, competitiveness, and social responsibility in an ever-changing industry landscape.

In previous research (María D. López-Gamero, Agility, innovation, environmental management and competitiveness in the hotel industry, 2022) investigated the importance of combining innovation and agility in the hotel industry to achieve environmental sustainability, competitiveness, financial value, and social benefits. This holistic approach aligns with the concept of a "triple bottom line," where businesses aim to balance environmental, social, and financial considerations for long-term success.

Environmental management has become a vital component of contemporary business strategies, influencing not only operational efficiencies but also overall competitiveness. As environmental concerns grow, organizations increasingly recognize the need to integrate environmental considerations into their core business practices. This integration can lead to significant benefits, enhancing both sustainability and competitive advantage. The relationship between environmental management and organizational competitiveness is multifaceted, encompassing aspects such as cost reduction, innovation, brand reputation, stakeholder engagement, and regulatory compliance.

At the heart of effective environmental management is the concept of sustainability, which refers to the capacity to meet present needs without compromising the ability of future

generations to meet theirs. According to the Brundtland Commission (1987), sustainable development must integrate economic, social, and environmental goals. Organizations that adopt sustainable practices are better positioned to respond to the increasing demands from consumers, investors, and regulatory bodies for responsible environmental stewardship. As a result, firms that prioritize environmental management can experience enhanced competitive positioning in their respective markets.

One of the primary ways environmental managements contributes to competitiveness is through cost savings and operational efficiencies. Organizations that implement effective environmental management systems often identify opportunities for reducing waste, conserving energy, and optimizing resource usage. For instance, companies that adopt practices such as energy-efficient technologies, waste reduction strategies, and sustainable sourcing can significantly lower their operational costs. A study by McKinsey (2020) indicates that companies with robust sustainability programs can achieve cost savings that enhance their profitability. By lowering operational costs, firms can improve their margins and invest in further innovation or marketing efforts, ultimately strengthening their competitive position.Innovation is another critical area where environmental management plays a significant role. Organizations that commit to sustainable practices often stimulate creativity and innovation within their teams. The need to develop environmentally friendly products and processes can drive research and development efforts, leading to the creation of new technologies and solutions. For instance, the transition to renewable energy sources has spurred innovation in various sectors, from automotive to manufacturing. Companies that successfully integrate environmental considerations into their innovation processes can differentiate themselves from competitors and capture new market opportunities. A report by Accenture (2021) highlights that firms embracing sustainability are more likely to lead in innovation and market share growth.

Moreover, effective environmental management enhances brand reputation, a critical factor in gaining and retaining customers. In today’s market, consumers are increasingly making purchasing decisions based on a company's environmental practices. Research conducted by Nielsen (2015) found that 66% of consumers are willing to pay more for products from brands committed to positive social and environmental impact. By adopting and promoting sustainable practices, organizations can bolster their brand image and attract a loyal customer base. Brands that are perceived as environmentally responsible often enjoy a

competitive advantage, as consumers increasingly prefer to support companies that align with their values.

Engagement with stakeholders is another important dimension of environmental management that can impact competitiveness. Organizations that prioritize environmental stewardship often foster stronger relationships with various stakeholders, including customers, employees, suppliers, and local communities. By involving stakeholders in decision-making processes and demonstrating a commitment to sustainability, companies can enhance their reputation and build trust. This trust can translate into greater customer loyalty, improved employee morale, and more productive relationships with suppliers. A study by Harvard Business Review (2020) indicates that companies with strong stakeholder engagement practices are better positioned to navigate challenges and seize opportunities in a rapidly changing environment.

Regulatory compliance is also a key consideration in the relationship between environmental management and competitiveness. As governments around the world implement stricter environmental regulations, organizations that proactively manage their environmental impact are better prepared to meet compliance requirements. By adopting comprehensive environmental management practices, companies can mitigate risks associated with regulatory penalties and reputational damage. This proactive approach not only enhances compliance but also positions organizations as leaders in their industries, setting them apart from competitors who may lag in their environmental efforts. A report by KPMG (2020) emphasizes that businesses with robust sustainability practices are more resilient in the face of regulatory changes.

Despite the numerous benefits associated with environmental management, organizations face challenges in its implementation. One significant barrier is the perception of costs associated with sustainability initiatives. Many companies are hesitant to invest in environmental management due to concerns about short-term costs and the uncertain return on investment. However, research shows that the long-term benefits often outweigh initial expenditures. According to a study by the World Economic Forum (2020), businesses that invest in sustainability can achieve a competitive advantage that translates into higher profitability and reduced risk.

Measuring the effectiveness of environmental management initiatives can also pose challenges. Companies often struggle to quantify the impacts of their sustainability efforts in terms of financial returns, making it difficult to justify investments to stakeholders. Developing clear metrics and benchmarks for assessing environmental performance is essential for organizations seeking to evaluate their sustainability initiatives. Frameworks such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) provide guidelines for organizations to report on their environmental impact, helping to improve transparency and accountability.

Additionally, organizations must navigate the complexities of balancing environmental management with other business objectives. Integrating sustainability into corporate strategy requires a holistic approach that considers the interplay between environmental, social, and economic factors. This necessitates collaboration across departments and levels within the organization, ensuring that sustainability is embedded in decision-making processes. Companies that successfully align their environmental goals with broader business objectives are more likely to achieve sustainable competitive advantage.

Looking ahead, the importance of environmental management is expected to grow as global challenges such as climate change, resource scarcity, and social inequality intensify. Organizations that embrace sustainability as a core value will be better positioned to adapt to evolving consumer preferences and regulatory landscapes. Emerging trends such as circular economy practices, which emphasize the reuse and recycling of materials, will further shape the future of environmental management. Companies that prioritize innovation and sustainability will likely lead in their industries, capturing new opportunities and mitigating risks associated with environmental degradation.

In conclusion, environmental management is intricately linked to organizational competitiveness. By prioritizing sustainability, organizations can enhance operational efficiencies, drive innovation, improve brand reputation, engage stakeholders, and ensure regulatory compliance. While challenges exist in implementing effective environmental management practices, the long-term benefits far outweigh these obstacles. As the global landscape continues to evolve, organizations that integrate environmental considerations into their core business strategies will be better equipped to thrive in an increasingly competitive marketplace. The journey toward effective environmental management requires commitment, transparency, and a willingness to adapt, but the rewards—both for businesses and society—

are significant and far-reaching. Previous literature suggests that effective planning and implementation of an environmental management program in addition to an eco-design enhances environmental performance (Geyer and Jackson, 2004). In fact, several studies have tested the relationships between EMP and organizational performance (Markley and Davis, 2007; Sroufe, 2003; Kim, 2011; Lai and Wong, 2012; Montabon et al., 2007; Theyel and Hofmann, 2015; Rao and Holt, 2005; Zhu and Sarkis, 2004). Kim (2011), in his study of small and medium-sized electrical and electronic firms in Korea, found a positive relationship between EMP and operational performance. Sroufe (2003), in a study of manufacturing firms in the USA provided evidence of a positive relationship between environmental practices and operational performance measures. Montabon et al. (2007) used corporate reports to investigate the relationship between EMP and business performance and found a positive relationship between the two. Most of the studies on EMPs and firm performance have been done in developed or rapidly developing countries and it is unclear if the same findings can be obtained in under-developed countries where market pressures are different and governmental regulations might be less stringent.

2.6 Theoretical perspective

Agility, innovation, and corporate social responsibility (CSR) are interconnected elements that significantly impact an organization’s competitiveness from a dynamic capability perspective. Dynamic capabilities refer to a firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece, 2007). In this context, agility represents an organization’s ability to respond swiftly to market changes and customer demands, fostering innovation that enables the development of new products and services.

The relationship between agility and innovation is evident in how agile firms leverage their flexible structures and processes to experiment and iterate quickly. This adaptability not only allows for faster decision-making but also encourages a culture of continuous improvement and creativity (Sambamurthy et al., 2003). As organizations become more agile, they can capitalize on emerging trends and technologies, leading to innovative solutions that enhance their competitive edge (Swafford et al., 2008).

CSR complements this dynamic by providing a framework through which organizations can align their innovations with societal needs. Companies that incorporate CSR into their strategic vision often find new avenues for innovation that resonate with consumers, thereby enhancing their brand reputation and competitive position (Porter & Kramer, 2006). For instance, businesses that prioritize sustainable practices can tap into the growing market demand for environmentally friendly products, creating value while fulfilling their social responsibilities.

Moreover, the interplay between these elements fosters a learning environment where organizations can adapt their strategies and capabilities in response to stakeholder expectations and environmental changes. By embedding CSR into their core operations, firms not only strengthen their ethical foundations but also cultivate agility and innovation, leading to enhanced dynamic capabilities. This interconnectedness ultimately results in improved competitiveness, as companies that are agile and innovative in their CSR efforts can differentiate themselves in crowded markets (González-Benito & González-Benito, 2006).In summary, the relationship among agility, innovation, and CSR is pivotal for enhancing competitiveness. Organizations that effectively integrate these elements develop the dynamic capabilities necessary to thrive in today's fast-paced business landscape, thereby securing a sustainable competitive advantage.

2.7 Hypotheses

- H1a: Agility has a positive significant impact on cost competitiveness
- H1b: Agility has a positive significant impact on differential competitiveness
- H1c: Operational Agility has a positive significant impact on cost competitiveness
- H1d: Operational Agility has a positive significant impact on differential competitiveness
- H1e: Customer Related agility has a positive significant impact on cost competitiveness
- H1f: Customer Related Agility has a positive significant impact on differential competitiveness
- H1g: Partner Related Agility has a positive significant impact on cost competitiveness
- H1h: Partner Related Agility has a positive significant impact on differential competitiveness
- H2a: Innovation has a positive significant impact on cost competitiveness
- H2b: Innovation has a positive significant impact on differential competitiveness
- H2c: Radical Innovation has a positive significant impact on cost competitiveness
- H2d: Radical Innovation has a positive significant impact on differential competitiveness
- H2e: Incremental Innovation has a positive significant impact on cost competitiveness
- H2f: Incremental Innovation has a positive significant impact on differential competitiveness
- H3a: Corporate Social Responsibility has a positive significant impact on cost competitiveness

- H3b: Corporate Social Responsibility has a positive significant impact on differential competitiveness
- H4a: Environmental Management mediates the relationship between agility and competitiveness
- H4b: Environmental Management mediates the relationship between agility and differential competitiveness
- H5a: Environmental Management mediates the relationship between innovation and competitiveness
- H5b: Environmental Management mediates the relationship between innovation and diff competitiveness
- H6a: Environmental Management mediates the relationship between Corporate Social Responsibility and cost competitiveness
- H6b: Environmental Management mediates the relationship between Corporate Social Responsibility and differential competitiveness.

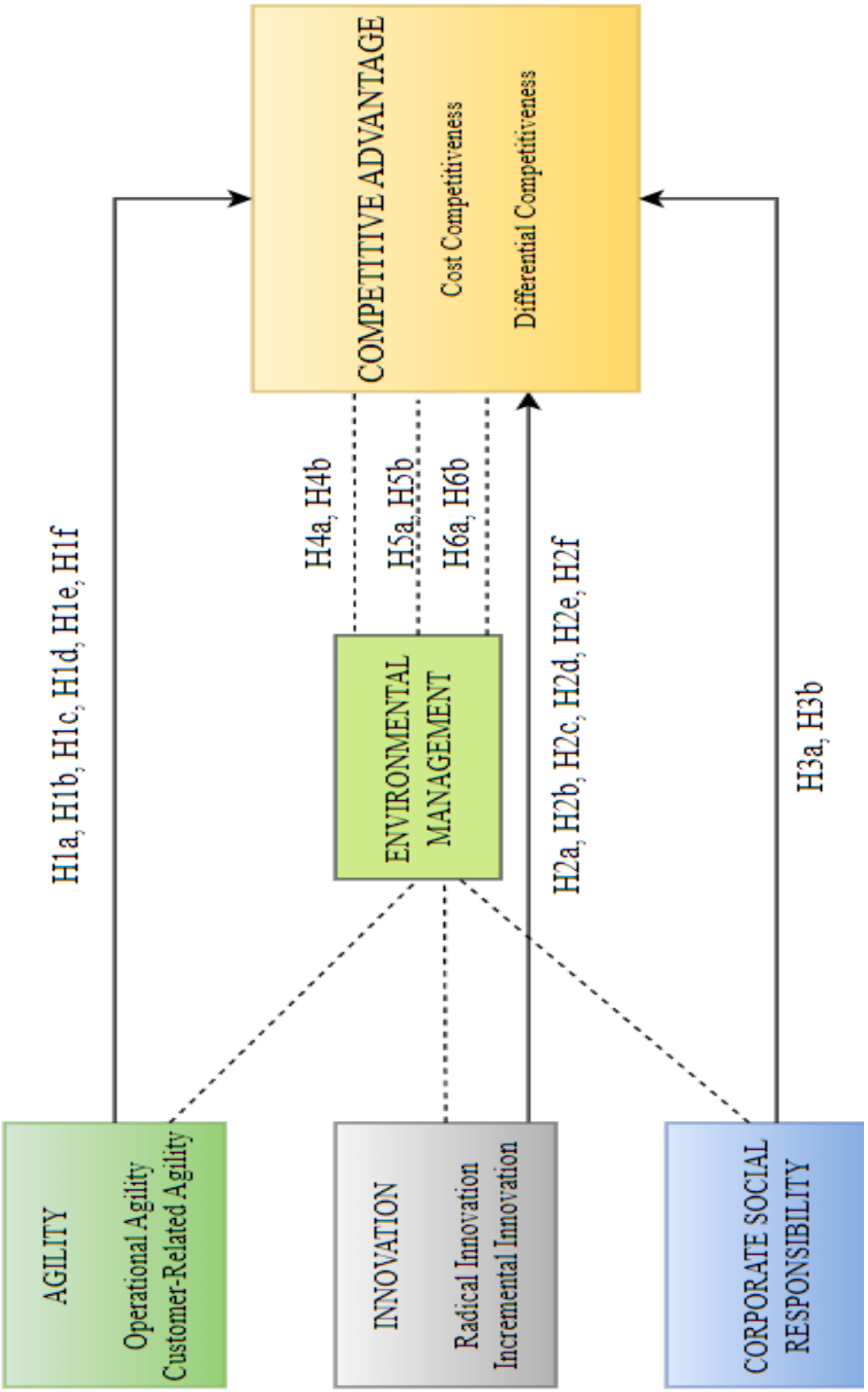

Figure 1: Conceptual framework of the study

CHAPTER 3. METHODOLOGY

A worldview is an approach to review the world, a bunch of thoughts that is utilized to comprehend or make sense of something, frequently connected with a particular subject. In social sciences, there are a few dominating standards, each with its own one-of-a-kind ontological and epistemological point of view (Sheppard, 2000).

3.1 Research Paradigm

A worldview is an approach to review the world, a bunch of thoughts that is utilized to comprehend or make sense of something, frequently connected with a particular subject. In social sciences, there are a few dominating standards, each with its own one-of-a-kind ontological and epistemological point of view (Sheppard, 2000).

The foundational framework is positivism, asserting the independence of reality from individual subjectivity. According to this perspective, reality remains unaffected by personal perceptions and adheres to objective principles. Positivists adopt an ontological stance characterized by objectivity, striving to understand the social realm in a manner analogous to the exploration of the natural world (Adil Abdul Rehman, 2016). Following positivism, the subsequent paradigm is interpretivism. Interpretivism can be characterized as a reaction to the perceived overemphasis and rigidity of positivist." (Grix, 2004). Interpretivism challenges the notion of a singular and unquestionable reality existing independently of our perceptions. Within an interpretive worldview, there is a reluctance to embrace foundationalism.

Critical theory represents an alternative research paradigm. The ontological stance of critical scholars emphasizes the socially constructed nature of reality. It is posited that an objective reality does exist, but it is shaped by various interplaying factors such as social, political, ethnic, ideological, and structural elements, which collectively contribute to the formation of a social system. Epistemologically, critical theory acknowledges the inherent subjectivity in research, recognizing that no object of study can be examined without being influenced by the perspectives and values of the researcher (Kincheloe, 2005).

The commonsense worldview emerged among scholars who argued that accessing an objective "reality" was not achievable solely through a single rational approach advocated by the Positivist perspective. Similarly, it was deemed impractical to delineate social reality solely based on the Interpretivist standpoint. Consequently, a monolithic paradigmatic approach was deemed insufficient (Charles Kivunja, 2017).

3.2 Principle of Research

A researcher must recognize and express their philosophical stance, as it is crucial in guiding and enriching the inquiry process. In this context, philosophy encompasses the utilization of abstract concepts and principles to inform and improve our investigative endeavors. Subsequently, these philosophical assumptions are applied to comprehend how they shape the researcher's conduct. Philosophical presumptions embody deeply ingrained beliefs and attitudes regarding the nature of subjects to be examined, the questions to be raised, or the methodologies employed for data collection. Despite being ingrained through educational experiences, interactions with advisors, conversations with scholars, personal histories, and self-perceptions, becoming aware of these assumptions can be challenging. The decision of whether to explicitly incorporate these philosophical assumptions into the research process is also of paramount importance (Creswell J. W., 2018). Since my research is based on a survey of the literature, the researcher did not plan to make his philosophical perspective a key component of it. As a result, the researcher has had difficulty recognizing and expressing it. The researcher's perspectives and preconceptions undeniably shape the trajectory and structure of the study, despite the researcher's efforts to maintain objectivity and awareness of these influences. Employing a philosophical research approach, the investigator conducts the study with the acknowledgment that while complete understanding of reality may be unattainable, scholars generally share the belief that there is a tangible reality to be explored, grasped, and comprehended to the best of their abilities. (Denzin, 2005).

3.3 Research Methodology

There are three sorts of research methodology. Quantitative, Qualitative, and blended strategy research. Quantitative research methodology manages the numeric and figuring out the connection between the variable and deciphering the elucidating aftereffect of the review while the subjective research technique manages the particular or groundbreaking thought, occasion, and system. The fundamental target of subjective research is to acquire further data under concentrate on occasions (Frankfort-Nachmias, 2015).

The study involves a quantitative case study through surveys. A useful tool and technique to conduct research is to do surveys quantitatively. Within survey research, the independent and dependent variables play a pivotal role in delineating the study's parameters. In this context, the term "survey" is merely a method used for data collection. Essentially, a survey serves as a tool to gather information about the characteristics, behaviors, or opinions of a substantial group of individuals, according to (Pinsonneault, 2013). Surveys can additionally serve the purpose of assessing impacts, gauging demand, and identifying needs within a given context.

(Salant, 1994). To differentiate the survey tool from the comprehensive survey study it is designed to facilitate, the term "survey instrument" is frequently employed.

According to (Gobind, 2015) the aim of quantitative research is to "explore and explain phenomena through the collection of numerical data and the application of mathematically based methods, especially statistics," facilitating the analysis of the gathered data. When considering quantitative approaches, certain elements, often centered around statistics and numerical data, come to mind. These concepts encapsulate a crucial aspect of the essence of quantitative approaches. The methodology of a quantitative study aligns with the presumptions of the empiricist paradigm **(**Creswell M. a., 2003). Quantitative research entails the systematic empirical analysis of observable phenomena utilizing statistical, mathematical, or computational methods. Its goal is to formulate and employ mathematical models, theories, and/or hypotheses relevant to the investigated phenomena.

The current research was divided into two phases

Phase I Development of new instrument. This phase was comprised of development and establishes the psychometric properties of newly developed scale.

Phase II Main Study. In this phase, the newly developed reliable scale was administered to the study sample to test the research hypotheses.

Phase 1: Development of the Instrument

Objectives

Phase I of the present research has the following objectives

Generating items for the new instruments on the basis of existing literature.

1. To develop an indigenous scale for the measurement of relationship between agility, innovation, Corporate Social Responsibility and environmental management in the telecommunication sector of Pakistan.
2. To measure the alpha coefficient reliability of newly developed Instrument.
3. To determine the convergent validity of newly developed instrument by measuring its correlation with
4. To determine the divergent validity of newly developed questionnaire by measuring correlation with

Steps to achieve the Objectives

To achieve the above-mentioned objectives, study I was systematically undertaken in below mentioned steps:

Development of questionnaire. In this step 126 item were generated on the basis of existing literature review. The items were related to agility, innovation, corporate social responsibility, competitive advantage and environmental management. Rigorous testing must be applied to new instruments to ascertain their validity. The concept of validity pertains to the degree to which a given instrument accurately assesses its intended construct (Rainer, 2018). Content validity, which is assessed through quantitative methods, evaluates the extent to which elements correspond to or accurately represent a particular domain (Cabrera-Nguyen, 2010).

Content validly

Content Validity is crucial to ensure that a newly developed instrument accurately measures the intended constructs. Two key quantitative methods for assessing content validity are the Content Validity Ratio (CVR) and the Content Validity Index (CVI). These methods help quantify the degree to which subject **.** The Content Validity Ratio (CVR) is a statistical measure designed to evaluate the relevance of individual items in a questionnaire. To calculate the CVR, a panel of subject matter experts (SMEs) is assembled, ideally consisting of at least 5 to 10 individuals familiar with the constructs being assessed. Each expert evaluates whether each item is essential, useful but not essential, or not necessary for measuring the intended construct. The CVR for each item is calculated using the formula:

CVR=$ne-(N/2)$

Where represents the number of experts who rated the item as "essential," and N is the total number of experts. The CVR values range from -1 to +1, with higher values indicating greater agreement among experts that an item is essential. A CVR above a critical value—determined by the number of experts suggests that the item is valid, while items with low or negative CVR scores may be revised or removed.

On the other hand, the Content Validity Index (CVI) provides a broader assessment of the relevance of the items in the questionnaire. The I-CVI (item-level CVI) is calculated for each item based on expert ratings using a Likert scale (typically from 1 = not relevant to 4 = highly relevant). The I-CVI is the proportion of experts who rate an item as either 3 or 4, calculated with the formula:

I-CVI= Number of experts rating the item as 3 or 4/Total number of experts

I-CVI score of 0.78 or higher is generally deemed acceptable when the panel consists of 5 or more experts. In addition to the I-CVI, the Scale-Level CVI (S-CVI) provides an overall measure of the content validity for the entire scale. The S-CVI can be calculated as S-CVI/UA (Universal Agreement), which reflects the proportion of items that all experts rated as relevant

(I-CVI of 1.00), or S-CVI/Ave (Average), which represents the average of all I-CVIs across items. An S-CVI/Ave of 0.90 or higher indicates excellent content validity.

The determination of content validity involved the input of a panel of experts (n = 9). All experts were provided with a concise introduction and the goal of the Inventory. The scale was distributed to committee members for meticulous evaluation, and the experts provided their comments and made necessary revisions. The final version scale was produced by selecting the most suitable components. All items were maintained in the scale after a thorough study and examination of their cultural context. The 9 experts were invited to participate in the content validity study. The CVI-S for the entire tool was 0.92. Item CVI scores ranged from 0.28 to 1, and item CVR scores ranged from 0.33 to 1. 13 items with a low CVI score (<0.78) and low CVR score (<0.85) were removed from the tool and 113 were retain for further analysis.

Table 1 Content validity Index and content validity ratio

Content Validity Index (CVI), and Content Validity Ratio (CVR) for Items of newly develop instruments (N=9)

Item No	CVI	CVR	Item No	CVI	CVR
1	1	0.82	14	1	0.84
2	1	0.93	15	1	0.88
3	1	0.28	16	1	0.61
4	0.53	0.33	17	0.31	0.21
5	1	0.82	18	0.99	1
6	1	0.74	19	1	0.88
7	1	0.98	20	0.82	0.89
8	1	0.89	21	1	0.79
9	0.73	0.84	22	1	1
10	0.99	1	23	0.97	0.93
11	1	0.98	24	0.80	0.90
12	1	0.84	25	0.82	0.98
13	1	0.85	26	1	0.98
27	0.61	0.74	43	1	0.97
28	1	0.93	44	0.73	0.85
29	0.83	0.90	45	1	1
31	0.84	0.98	46	1	0.98
32	1	0.98	47	1	0.88
33	1	0.74	48	1	0.89
34	1	0.98	49	1	1
35	0.76	0.92	50	1	0.93
36	0.87	1	51	1	0.90
37	1	0.88	52	1	0.98
38	1	0.84	53	0.99	1
39	0.61	0.74	54	0.87	0.88
40	1	0.98	55	0.82	0.89

41	1	0.86	56	0.71	0.79
42	1	0.84	57	1	1
58	1	1	73	0.97	0.93
59	1	0.98	74	0.80	0.90
60	1	0.81	75	0.82	0.98
61	1	0.82	76	1	0.98
62	0.61	0.74	77	1	0.97
63	1	0.93	78	0.73	0.88
64	0.83	0.90	79	0.99	1
65	0.84	0.98	74	0.97	0.98
66	1	0.98	75	0.76	0.88
67	0.61	0.74	76	0.73	0.86
68	1	0.93	77	0.99	1
69	0.83	0.90	78	1	0.88
70	0.84	0.98	79	0.82	0.89
71	1	0.98	80	1	0.88
72	1	0.87	81	1	1
82	1	0.98	97	0.97	0.93
83	1	0.88	98	0.80	0.90
84	0.87	1	99	0.82	0.98
85	0.99	1	100	1	0.98
86	1	0.88	101	1	0.97
87	0.82	0.89	102	0.73	0.88
88	1	0.92	103	1	1
89	1	1	104	0.99	1
90	0.97	0.93	105	1	0.88
91	0.80	0.90	106	0.82	0.89
92	0.82	0.98	107	1	0.88
93	1	0.98	108	1	1
94	1	0.97	109	0.97	0.93
95	0.73	0.89	110	0.80	0.90
96	1	1	111	0.98	0.90
112	0.99	1	122	0.99	1
113	1	0.88	123	1	0.88
114	0.82	0.89	124	0.82	0.89
115	1	0.86	125	1	0.86
116	1	1	126	1	1
117	0.97	0.93	CVI-S	0.92	
118	0.80	0.90			
119	0.82	0.98			
120	1	0.98			
121	1	0.97			

Note. CVI= Content Validity Index, CVR= Content Validity Ratio, CVI-S= Content Validity Index- Sum

Table 1 show the content validity Index and content validity ratio of 126 items questionnaire. The scale was ready to administer along with its scoring key. Likert type scoring was used in scale consisting of five response categories. The response category was labeled and scored as

1=strongly disagree 2=disagree, 3=neutral, 4=agree, 5=strongly agree. The score ranges from 113 to 565.

The tryout study was conducted to investigate the language validation. 60 participants from the telecommunication sector were initially selected to check the comprehension and wordings of the items.

Permission was obtained from the administrative authorities of telecommunication companies. In addition to providing the participants with a concise introduction and explanation of the research, informed consent was also obtained for their involvement in the study. All ethical standards were considered while conducting this research. Data was collected using a purposive sampling. After this, the data collection procedure was started; written consent was taken from the participants, and they were also informed about the purpose of the research. The questionnaires were distributed among the participants. They were requested to read instructions carefully and respond to each item as correctly as possible. They were told about maintaining the confidentiality of their participation in the research; everything was explained in a clear manner, and if there was any ambiguity, participants were given detailed instructions.

Table 2 Cronbach Alpha Reliability for newly developed questionnaire

Cronbach Alpha Reliability for newly developed questionnaire (N=60)

Scale	K	M(SD)	α	Range		Skewness	Kurtosis
				Potential	Actual		
Questionnaire	113	321.21(15.56	.78	113-565	276-343	.69	.58

Note. α= reliability coefficient, M=Mean, SD= Standard Deviation, K= No of Items

Table 2 displays the psychometric properties of the variables examined in the study. The reliability analysis demonstrates that the questionnaire has an acceptable reliability coefficient that is 0.78, indicating that the scale is reliable and suitable for usage with the research sample.

Determination of Internal Consistency & Reliability of the questionnaire

To assess the internal consistency of questionnaire item-total correlation, inter-item correlation and normality checking were applied to the data. 200 participants from the telecommunication sector were to obtain the data.

Permission was obtained from the administrative authorities of telecommunication companies. In addition to providing the participants with a concise introduction and explanation of the research, informed consent was also obtained for their involvement in the study. All ethical standards were considered while conducting this research. Data was collected using a purposive sampling. After this,

the data collection procedure was started; written consent was taken from the participants, and they were also informed about the purpose of the research. The questionnaires were distributed among the participants. They were requested to read instructions carefully and respond to each item as correctly as possible. They were told about maintaining the confidentiality of their participation in the research; everything was explained in a clear manner, and if there was any ambiguity, participants were given detailed instructions.

Table 3 Item-total correlation for Multidimensional 113-items original questionnaire

Item-total correlation for Multidimensional 113-items original questionnaire (N=200)

Item no	Correlation	Item no	Correlation
1	.23	58	-.17
2	.76***	59	.79***
3	.59***	60	.74***
4	.15	61	.65***
5	.73***	62	.59***
6	.62***	63	.87***
7	.68***	64	.30***
8	.07	65	.31***
9	.24	66	.58***
10	.54***	67	.70***
11	.15	68	.25
12	.26	69	-.35
13	.67***	70	-.32
14	.62***	71	.86***
15	.76***	72	.88***
16	.80***	73	.69***
17	.76***	74	.83***
18	.51***	75	.79***
19	.62***	76	.44***
20	.68***	77	.88***
21	.39***	78	.86***
22	-.11	79	-.53
23	.21	80	0.74***
24	.23	81	0.73***
25	-.06	82	.02
26	.56***	83	.19
27	.27	84	.79***
28	.25	85	.24
29	.58***	86	0.72***
30	.60***	87	-.24
31	.85***	88	-.25
32	.83***	89	-.19
33	.26	90	.80***
34	.25	91	.30***
35	.22	92	.28***
36	.82***	93	.65***
37	.41***	94	-.08

38	.56***	95	-.61
39	.79***	96	-.01
40	.81***	97	-.03
41	.60***	98	-.17
42	.64***	99	.67***
43	.84***	100	.66***
44	.79***	101	.73***
45	.87***	102	.76***
46	.52***	103	.78***
47	.37***	104	.12
48	.03	105	.24
49	.83***	106	.26
50	.79***	107	.57***
51	.78***	108	.10
52	.45***	109	.04
53	.79***	110	.25
54	-.32	111	.21
55	.54***	112	.27
56	.62***	113	.20
57	.62***		

Table 3 indicates that most of the items are significantly correlated with the total score of scale. The forty items showed low correlation (<.30), so author decided to discard the forty items were deleted from the scale. The remaining 73 items were showing good inter-item correlation. These remaining items have correlation above the 0.30 due to which the decision was made to retain these items.

Normality check for the 73 items. Normality check was conducted to identify the outliers in the data. Items had SD lower than 0.5 and greater than 1.5 were discarded (Field, 2005). Normality check is very important because wrong selection of the representative value of a data set and further calculated significance level using this representative value might give wrong interpretation.

Table 4 *Standard Deviation of 73 items Questionnaire*

Standard Deviation of 73 items Questionnaire (N=200)

Sr.No	Item no	SD	Sr.No	Item no	SD
1	2	1.43	15	21	1.62
2	3	1.44	16	26	1.54
3	5	1.48	17	29	1.41

4	6	1.43	18	30	1.32
5	7	1.32	19	31	1.35
6	10	1.42	20	32	1.23
7	13	1.42	21	36	1.42
8	14	1.31	22	37	1.57
9	15	1.36	23	38	1.33
10	16	1.42	24	39	1.32
11	17	1.32	25	40	1.33
12	18	1.54	26	41	1.32
13	19	1.33	27	42	1.22
14	20	1.22	28	43	1.41
29	44	1.33	53	73	1.65
30	45	1.47	54	74	1.31
31	46	1.62	55	75	1.45
32	47	1.54	56	76	1.66
33	49	1.33	57	77	1.36
34	50	1.26	58	78	1.56
35	51	1.43	59	80	1.43
36	52	1.61	60	81	1.44
37	53	1.46	61	84	1.32
38	55	1.72	62	86	1.33
39	56	1.58	63	90	1.41
40	57	1.52	64	91	1.54
41	59	1.58	65	92	1.56
42	60	1.32	67	93	1.42

43	61	1.22	68	99	1.58
44	62	0.87	69	100	1.31
45	63	1.24	70	101	1.43
46	64	1.46	71	102	1.62
47	65	1.33	72	103	1.55
48	66	1.24	73	107	1.56
49	67	1.33			
50	68	1.36			
51	71	1.43			
52	72	1.33			

The result of Table 4 elucidates that most of the items has SD between 0.5-1.5. The standard deviations of these items were above 1.5 due to which decisions were made to discard 21 items. The remaining 52 items has the SD range between 0.5-1.5 due to which the decision was made to retain the 52 items.

Factorial Validity for newly developed questionnaire. To assess the dimensionality of the newly developed questionnaire, it is necessary to do Principal Component Analysis with oblimin rotation. The Principal Component Analysis was applied to a set of 52 items of newly developed questionnaire. Three components emerged with Eigen values over 1.0.The items for the scale were chosen based on their factor loading, with a criterion of loading values equal to or greater than a certain threshold (0.3-0.8). The direct oblimin rotation was employed to analyze the five -factor solution. The Kaiser-Meyer-Olkin measure of adequacy was calculated to be .82, that is higher than suggested threshold of .60 for conducting factor analysis. This suggests that the data is suitable for factor analysis. The Bartlett's test of sphericity yielded a significant result (11311.47, $p<.001$). The probability is below 0.001, indicating that the matrix is not an identity matrix. KMO & Barlett's test facilitated the application of factor analysis to the data.

Table 5 Psychometric properties of newly developed questionnaire with 52 items

Psychometric properties of newly developed questionnaire with 52 items (N=200)

Note: K= no of Items

Table 5 displays the psychometric properties of the questionnaire. The reliability analysis demonstrates that the questionnaire has a favorable reliability coefficient, indicating that the scale is reliable and suitable for usage with the research population.

Table 6 *Eigen Values and Percentage Variances*

Eigen Values and Percentage Variances explained by three Factors for Questionnaire

Factors	Eigen Values	% of Variance	Cumulative %
F1	15.65	32.19	28.12
F2	12.43	30.12	32.17
F3	10.21	17.43	43.87
F4	8.56	15.43	51.44
F5	6.12	13.21	62.87

Scale	K	M(SD)	α	Potential	Actual	Skewness	Kurtosis
Questionnaire	52	162.43(24.53)	.87	72-238	52-260	0.72	-0.65

Table 6 shows that all he factors has the Eigen values greater than 1. According to the results, 62.87% of the variation is explained by the five components together.

Table 7 Factor Loadings for Exploratory Factor Analysis, Construct reliability and Average variance extracted

Factor Loadings for Exploratory Factor Analysis, Construct reliability and Average variance extracted (AVE) for 52 items (N=200)

Items No	F1 Agility	F2 Innovation	F3 CSR	F4 EM	F5 Competitiveness	α	CR	AVE
Q1	0.48					0.82	0.83	0.72
Q2	0.39							
Q3	0.53							
Q4	0.50							
Q5	0.56							
Q6	0.83							
Q7	0.59							
Q8	0.75							
Q9	0.61							
Q10	0.74							
Q11	0.56							
Q12	0.54							
Q13	0.60							
Q14	0.83							
Q15	0.51							
Q16		0.54				0.78	0.81	0.73

Q17	0.41						
Q18	0.42						
Q19	0.78						
Q20	0.54						
Q21	0.57						
Q22	0.49						
Q23	0.66						
Q24	0.57						
Q25	0.74						
Q26		0.52			0.82	0.78	0.79
Q27		0.44					
Q28		0.21					
Q29		0.37					
Q30		0.43					
Q31		0.52					
Q32		0.53					
Q33		0.52					
Q34			0.24		0.80	0.84	0.71
Q35			0.54				
Q36			0.54				
Q37			0.56				
Q38			0.64				
Q39			0.65				
Q40			0.62				
Q41			0.80				
Q42			0.63				
Q43				0.74	0.83	0.78	0.76
Q44				0.71			
Q45				0.66			
Q46				0.60			
Q47				0.57			
Q48				0.45			
Q49				0.49			
Q50				0.54			
Q51				0.48			
Q52				0.64			

Table 7 indicates the factor solution of the 52 items selected for newly developed questionnaire through principal component analysis via direct oblimin rotation Method. Table 10 indicates the 5 factors.

Developed Questionnaire

The newly developed questionnaire measure five factor, agility, Innovation, CSR, Environmental management and Competitiveness. This questionnaire has total 52 items. The Agility has total 15 items that are divided into further three subscales (operational, partner and customer) with same items number(n=5). Innovation has 10 items which is further divided into

two subscales (radical and Incremental). Third subscale is CSR, and it has 8 items, sub scale environmental management has 7 items while competitiveness has total 10 item which is divided into two subscales (cost competitiveness and Differential competitiveness). It has 5-point Likert type scoring system. The response category ranging from strongly agree =5, Agree=4, Neutral =3, Disagree=2 and Strongly Disagree=1Reliability analysis (study I) indicated good alpha reliability of the developed inventory (α=.91) Item total correlation ranged between .59 to .85 that granted an additional support that questionnaire is a reliable measure.

Discriminant validity of newly developed scale. Discriminant validity refers to the extent to which a newly developed scale or measurement instrument distinguishes between different constructs, ensuring that the scale does not correlate too highly with measures of theoretically distinct constructs. It is a crucial aspect of construct validity, indicating that the scale accurately measures the intended concept and not something else that is similar but conceptually different.

3.4 Discriminant Validity

To establish discriminant validity for a newly developed scale, several key methods can be employed:

Fornell-Larcker Criterion: This is a commonly used method for assessing discriminant validity in structural equation modeling (SEM). According to the Fornell-Larcker criterion, the average variance extracted (AVE) for each latent construct should be greater than the squared correlation between that construct and any other construct. This ensures that each construct shares more variance with its own items than with other constructs(Campbell & Fiske, 1959; Henseler et al., 2015).

Heterotrait-Monotrait (HTMT) Ratio of Correlations: The HTMT is another method for assessing discriminant validity. It calculates the ratio of the between-trait correlations (heterotrait) to the within-trait correlations (monotrait). If the HTMT value is below a certain threshold (typically 0.85 or 0.90), discriminant validity is considered to be established. HTMT is a more sensitive method than the Fornell-Larcker criterion and can detect issues of discriminant validity more effectively (Henseler, Ringle, & Sarstedt, 2015). .

Table 8 Latent Variable Correlation

Sr.	Variables	agility	Innovation	CSR	EM	Competitiveness
1	Agility	1				
2	Innovation	0.86	1			
3	CSR	0.78	0.82	1		

4	EM	0.65	0.78	0.79	1	
5	CC	0.61	0.72	0.75	0.76	1

The Table 8 shows that all the square roots of AVE (diagonal values) are more than the correlation coefficient between the constructs (off-diagonal values), indicating that discriminant validity is adequate (Fornell-Larcker, 1981).

Table 9 HTMT ratio

Sr.	Variables	agility	Innovation	CSR	EM	Competitiveness
1	Agility	1				
2	Innovation	0.83	1			
3	CSR	0.75	0.84	1		
4	EM	0.71	0.80	0.81	1	
5	CC	0.72	0.76	0.77	0.79	1

The table 9 shows that all the HTMT values obtained are less than the required threshold of HTMT (.85) (Kline, 2011) or HTMT (.90)(Gold, Malhotra & Segars, 2001) indicating that discriminant validity is adequate.

Table 10 Stepwise Model Fit Indices

Stepwise Model Fit Indices for CFA of MDDI-U (N = 200)

Models	χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA
Model 1 (52 items first order)	2890.76	1876	3.87	.85	.86	.88	.05
Model2 (52 items Second order)	2965.32	1543	1.54	.91	.96	.94	.08

The result of Table indicated that model 2(5 factor) is more suitbale for the new instrument.

Phase II: Main Study

3.4 Sample

The data was collected from 650 employees serving in telecommunication sector. The sample was selected through convenience and purposive sampling.

3.5 Instruments

Demographic sheet: The demographic sheet consists of participant variables like gender, age, Designation, education Qualification.

Questionnaire: The questionnaire that has been used in the present study has 52 items. It has 5 subscales, agility, Innovation, CSR, environmental management and Competitiveness. Agility has 15 items and innovation, and competitiveness have 10, 10 items. CSR has 8 items; environmental management has 9 items while Competitiveness has 10 items. The scale has Likert type rating, from 1 (Strongly agree) to 5 (Strongly disagree).

3.6 Procedure

The data was collected through in person and online method. Permission was obtained from the administrative authorities of various telecommunication organizations in Rawalpindi and Islamabad in order to conduct the data collection. In addition to providing the participants a concise introduction and explanation of the research, informed consent was also obtained for their involvement in the study. The participants were provided with the questionnaires. The respondents were instructed to thoroughly examine the instructions and provide accurate responses for each item. Additionally, the participants were guaranteed that their responses would remain confidential.

3.7 Analysis

Results of this study were analyzed through Descriptive statistics, reliability analysis, correlation analysis, t-test, and ANOVA.

CHAPTER 4: RESULTS & ANALYSIS

To analyze the data accurately and effectively, multiple tests were conducted. These test results and their analysis in in this section. The data collected for examination of relationship for agility, innovation, CSR with EM and its impact on the competitiveness; for both; cost and differential in telecommunication service sector. the objectives and hypotheses are statistically analyzed here to validate the relationships of all independent variables with the mediator and dependent variable. Along with that the test are to determine the mediator's impact on Dependent variable in presence of Independent Variable.

4.1 Demographic Analysis

Table 11 Frequency and percentage of study variables

Frequency and percentages of study variables (N=650)

Demographics	**M(SD)**	***f***	***%***
Age			
	25-35	251	38
	36-49	240	37
	50-65	160	25
Gender			
	Female	325	50
	Male	325	50
Education			
	Bachelors	302	42.7
	Masters	348	53.3
Designation			
	Trainee	265	41
	middle manager	194	30
	Sr. manager	102	16
	Executive	89	13

Table 11 shows the frequency and percentage of study variables of participants with respect to age, gender, education and designation.

Table 12 Alpha Coefficients and Descriptive Statistics for all Variables

Alpha Coefficients and Descriptive Statistics for all Variables (N=650)

Scales	Items	α	*M*	*SD*	Actual	Potential	Skewness	Kurtosis
Study scale	47	.89	194.97	15.32	72-212	47-235	-.24	.78
agility	15	.73	63.43	4.46	16-68	15-75	-.16	.68
Operational agility	5	.81	21.32	5.12	6-21	5-25	-.13	.54
Customer related agility	5	.83	20.87	3.21	7-23	5-25	-.15	.45
Partner related agility	5	.79	21.43	3.89	6-21	5-25	-.32	0.47
Innovation	10	.81	37.61	8.43	14-43	10-50	-.39	-.02
Incremental innovation	5	.86	22.65	3.87	6-22	5-25	-0.53	0.44
Radical Innovation	5	.89	21.65	3.65	6-23	5-25	0.43	0.54
CSR	8	.71	33.34	6.54	14-37	8-40	-.02	-.27
EM	9	.86	47.63	8.65	15-44	9-45	.49	1.04
Competitiveness	10	.79	45.12	3.17	51-47	10-50	0.65	0.43
Cost competitiveness	5	.75	19.89	4.21	8-20	5-25	-.07	.14
Differential competitiveness	5	.76	20.13	3.78	9-23	5-25	0.78	-0. 85

Note. CSR=Corporate Social Responsibility, E=Environmental management, CC=Cost Competitiveness, DC=Differential Competitiveness

Table 12 shows the descriptive statistics for all variables of the study. Skewness and Kurtosis values indicate that the variables are normally distributed. The values of skewness and kurtosis ranging between +1 to -1 are considered indicators of the normal distribution ofdata. Blumer's (1979) criterion shows that if the skewness of all the variables in the data is less than -1 or greater than +1 then the data is considered to be skewed. The values for skewness and kurtosis between -2 and +2 are also considered adequate for normal distribution (George & Mallery, 2010). According to the above-mentioned criterion, all the scales of the present study along

with their subscales have values of skewness and kurtosis within the range portraying a normal distribution of data. Therefore, the data was processed for further analysis. Table 2 also indicates Cronbach's alpha of all the scales and subscales which range from .71 to .89. The reliability of all the scales lies in the acceptable range indicating that theinstruments have a high internal consistency. According to Nunnaly (1978), scales with a reliability of .70 or more are acceptable and internally consistent. The reliability from .70 to is considered acceptable. Also, α of .60 to .70 indicates an acceptable level of reliability (Hulin, Netemeyer, and Cudeck, 2001). However, values higher than .95 are not necessarily good, since they might be an indication of redundancy (Hulin, Netemeyer & Cudeck, 2001).The reliability of all scales lies within the acceptable range indicating that the instruments have high internal consistency.

4.2 Pearson Correlation

Table 13 Pearson Correlation

Pearson Correlation among study variables (N=650)

Sr.	Variables	1	2	3	4	5	6
1	Agility	-	.81***	.75**	.79***	74***	.71**
2	Innovation	-	-	.69***	.81***	.75***	.77***
3	CSR	-	-	-	.78***	0.82***	0.80***
4	EM	-	-	-	-	0.78***	0.81***
5	CC	-	-	-	-	-	.85***
6	DC	-	-	-	-	-	-

Table 13 results indicated that there are significant relationships among the variables. Agility, innovation, corporate social responsibility, and environmental engagement have a significant positive relationship with cost and differential competitiveness.

Table 14 -test on male and female groups with respect to agility, innovation, CSR, EM, cost and differential competitiveness

T-test on male and female groups with respect to agility, innovation, corporate social responsibility, environmental management, cost competitiveness and differential competitiveness (N=650)

			Female n=325	*Male n=325*			
	M	*SD*	*M*	*SD*	*t(648)*	*p*	Cohen's *d*
Agility	38.70	16.73	42.42	14.46	2.69	.000	1.10
Innovation	35.34	4.18	36.74	4.13	1.54	.019	0.17
CSR	37.23	2.18	39.52	1.97	2.13	0.121	0.45
EM	49.65	4.43	48.76	4.53	2.09	0.032	0.53
CC	21.65	5.87	22.98	4.12	1.97	0.760	0.44

Note. CSR=Corporate Social Responsibility, E=Environmental management, CC=Cost Competitiveness, DC=Differential Competitiveness

Table 14 shows that the mean score for male and female on agility, innovation, corporate social responsibility, environmental management, cost competitiveness and differential competitiveness. The result shows that male and female have almost same score on all levels and there is no significant difference between male and female regarding all the study variables.

Table 15 T-test on bachelor's and master's groups with respect to agility, innovation, CSR, EM, cost and differential competitiveness

T-test on bachelor's and master's groups with respect to agility, innovation, corporate social responsibility, environmental management, cost competitiveness and differential competitiveness (N=650)

	Bachelors (302)		Masters (348)				
	M	SD	M	SD	t(648)	p	Cohen's d
Agility	35.21	15.73	43.42	14.46	1.69	.000	1.76
Innovation	38.34	3.23	37.23	6.12	1.78	.019	0.21
CSR	33.43	4.56	34.23	2.43	2.76	0.032	0.65
EM	46.43	6.54	48.87	5.12	3.13	0.000	1.01
CC	20.32	5.12	21.43	6.23	2.76	0.043	0.35
DC	23.14	4.33	22.52	4.67	2.65	0.34	0.43

Note. CSR=Corporate Social Responsibility, E=Environmental management, CC=Cost Competitiveness, DC=Differential Competitiveness

Table 15 shows that the mean score for bachelors and master's individuals on agility, innovation, corporate social responsibility, environmental management, cost competitiveness and differential competitiveness. The results indicated that there is significant difference agility between both groups. The results shows that individuals holding bachelor's and master's degree have almost same score on innovation, corporate social responsibility, environmental management, cost competitiveness and differential competitiveness and there is no significant difference between bachelors and masters group regarding all the study variables other than agility, $p<0.001$.

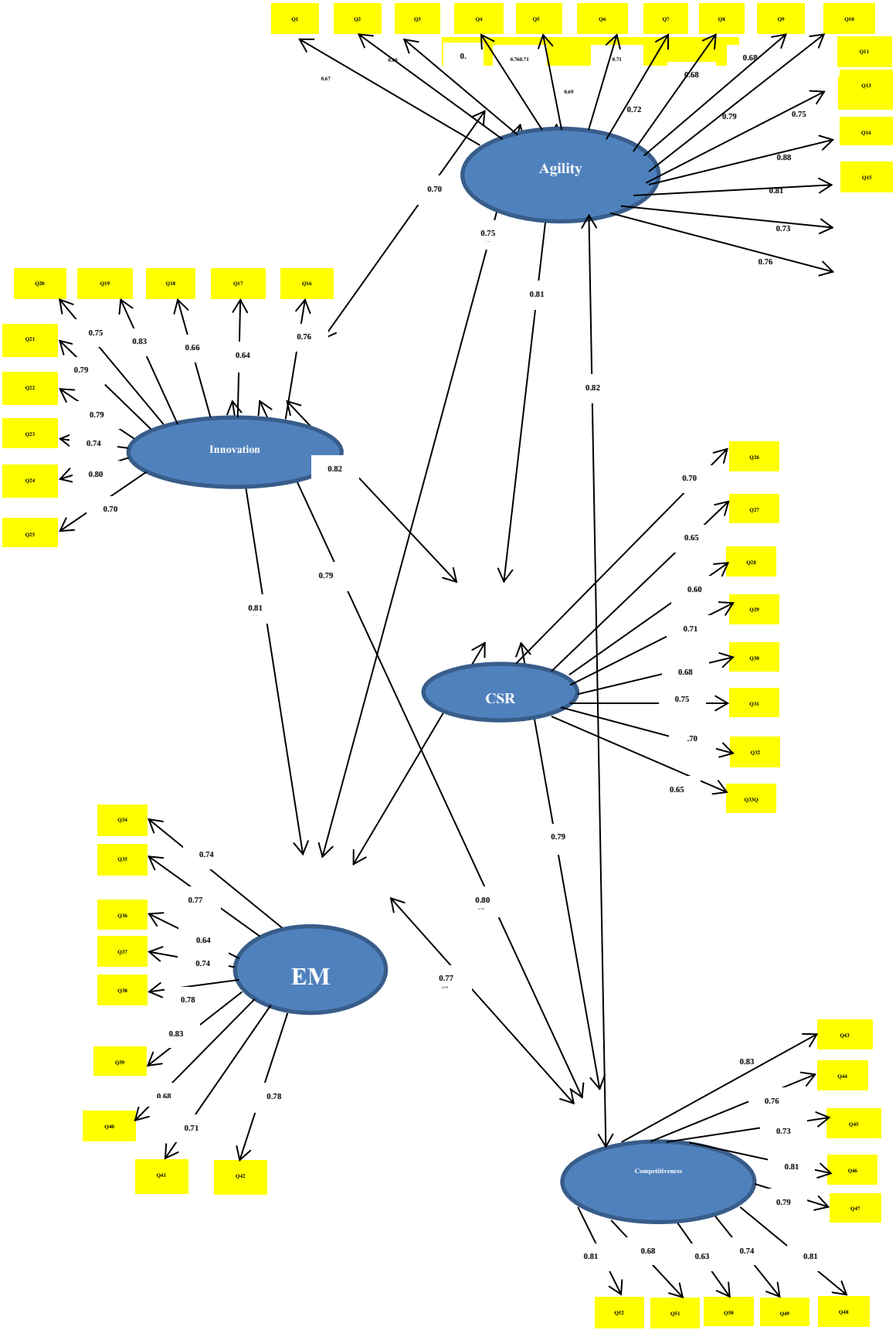

Figure 2 Structure Equation Modeling Simulation on Smart PLS 4.0

Table 16 Hypothesis Results

S.no	Hypothesis	Description	Results
1	**H1a**	AGL → CC	Supported
2	**H1b**	AGL → DC	Supported
3	**H1c**	OAGL-→CC	Supported
4	**H1d**	OAGL-→DC	Supported
5	**H1e**	CRA-→CC	Supported
6	**H1f**	CRA→DC	Supported
7	**H1g**	PRA-→CC	Supported
8	**H1h**	PRA→DC	Supported
9	**H2a**	INO→CC	Supported
10	**H2b**	INO→DC	Supported
11	**H2c**	R-INO→CC	Supported
12	**H2d**	R-INO→DC	Supported
13	**H2e:**	I-INO→CC	Supported
14	**H2f**	I-INO→DC	Supported
15	**H3a**	CSR-→CC	Supported
16	**H3b**	CSR→DC	Supported
17	**H4a**	AGL→EM→ CC	Partial Mediation
18	**H4b**	AGL→EM→ DC	Partial Mediation
19	**H5a**	INO→EM→ CC	Partial Mediation
20	**H5b**	INO→EM→ DC	Partial Mediation
21	**H6a**	CSR→EM→ CC	Partial Mediation
22	**H6b**	CSR→EM→ DC	Partial Mediation

CHAPTER 5: DISCUSSION

The present study is aimed to investigate the impact on Agility, innovation, corporate social responsibility and environmental management on competitiveness. Convenient sampling was used to obtain the data from the sample. The findings of the present study are indicated that there is significant correlation between Agility, innovation, corporate social responsibility, and environmental engagement have a significant positive relationship with cost and differential competitiveness. Finding also indicated that environmental management positively mediates between agility, innovation, CSR and Competitiveness.

Environmental management plays a crucial role in mediating the relationships between agility, innovation, and corporate social responsibility (CSR). As organizations strive to adapt to rapid market changes and evolving consumer expectations, the integration of environmental considerations into their strategies has become essential. This mediation influences how businesses achieve competitive advantage while being socially and

Agility in organizations refers to the ability to rapidly respond to changes in the market and environment, which is increasingly important in today's fast-paced business landscape. Environmental management enhances this agility by providing frameworks and processes that allow organizations to identify and adapt to environmental risks and opportunities quickly. For example, companies with robust environmental management systems can swiftly adjust their operations to comply with new regulations, meet consumer demands for sustainable products, or pivot in response to environmental crises. This responsiveness not only helps organizations stay compliant but also enables them to seize market opportunities that align with consumer preferences for sustainable practices.

Innovation is another critical area where environmental management plays a mediating role. Organizations committed to environmental management often foster a culture of innovation that focuses on developing sustainable products and services. This focus can drive the creation of new technologies and processes that minimize environmental impact while meeting market demands. For instance, companies that invest in research and development for eco-friendly products are more likely to capture the growing consumer base that prioritizes sustainability. By integrating environmental considerations into their innovation processes, organizations can enhance their competitive advantage and differentiate themselves from competitors.

Furthermore, the relationship between CSR and environmental management is intertwined, with CSR initiatives often encompassing environmental stewardship. Organizations that actively engage in CSR are more likely to adopt comprehensive environmental management practices. This alignment allows companies to communicate their commitment to sustainability to stakeholders effectively, which can enhance brand reputation and customer loyalty. For example, firms that transparently report their environmental performance and CSR efforts are often viewed more favorably by consumers and investors, leading to increased market share and improved financial performance.

The mediating role of environmental management in these relationships also emphasizes the importance of stakeholder engagement. Organizations that prioritize environmental management often involve stakeholders—such as customers, employees, and community members—in their decision-making processes. This engagement fosters a sense of shared responsibility and can lead to collaborative innovation, where stakeholders contribute ideas and solutions that enhance both agility and sustainability. By cultivating these relationships, companies can create a more resilient business model that adapts to changing market conditions while promoting social and environmental well-being.

In summary, environmental management serves as a vital mediator in the relationships between agility, innovation, and corporate social responsibility. By integrating environmental considerations into their core strategies, organizations can enhance their agility in responding to market changes, drive innovative solutions, and fulfill their CSR commitments. This integration ultimately leads to improved competitiveness and long-term sustainability in an increasingly conscious market landscape. As businesses face increasingly complex environmental and social challenges, the importance of environmental management in promoting agility and innovation is becoming more evident, paving the way for a sustainable future. Agile organizations are those that develop new and effective methods to respond to changes by formulating strategies and policies that leverage available resources and maximize their capabilities to manage change (Hosein & Yousefi, 2012). Agility involves quickly addressing shifts in customer preferences and needs, along with the flexibility to forge rapid and strategic alliances to introduce new services, thereby mitigating the negative impacts of change (Oyedijo, 2012). This capacity enables organizations to capitalize on potential opportunities and minimize risks associated with changes in the work environment.

Moreover, findings indicate a crucial relationship between firm productivity and innovation-related activities, suggesting that productivity growth is significantly influenced by technological change. Typically, the productivity gains from process innovations surpass those

from product innovations. Research by Yeşil and Doğan (2019) shows that increased R&D spending enhances a firm's ability to absorb new technologies, whether they are developed internally or sourced externally.

A firm's ability to export is often viewed as a key characteristic of its international competitiveness. Studies have shown that a firm's capacity for innovation fundamentally alters its behavior and capability to engage in export activities. Specifically, product innovation has been identified as a critical factor influencing a firm's readiness and ability to export. Additionally, R&D activities, patenting, and successful innovations positively affect the level and intensity of a firm's export performance. The capacity for survival is another indicator of competitiveness, closely linked to a firm's potential for market success and adaptability in changing environments. While innovation can enhance a firm's competitive position and survival prospects, it is also inherently risky, potentially leading to failure or bankruptcy (Chienet al., 2021).

Competitive advantage represents a specific aspect of competitiveness, typically associated with a firm's ability to generate economic rents. Most forms of competitive advantage—particularly those driven by innovation—are temporary, as competitors are likely to replicate or imitate these advantages. Michael Porter categorizes competitive advantage into two main types: cost advantage, where a firm delivers the same benefits at a lower cost, and differentiation advantage, where a firm's products provide superior benefits compared to competitors' offerings (Andriyiv, 2017).

Notable research by Mexican scientists Pinzon Castro et al. (2015) surveyed 397 SMEs to assess the impact of CSR on financial performance and competitiveness. They considered three dimensions of CSR: social (measured by 15 factors), environmental (7 factors), and economic (9 factors). Competitiveness was evaluated across three areas—financial results, cost reductions, and technology utilization—using 18 factors (6 for each area). Employing Confirmatory Factorial Analysis (CFA) and evaluating the reliability of the scales with Cronbach's alpha coefficient and Composite Reliability Index (CRI), the study found a direct correlation between CSR implementation and improved financial outcomes

However, not all researchers agree on a positive relationship between CSR and innovation. Gallego-Alvarez et al. (2011) explored the reciprocal connections between CSR practices and R&D investment, studying 500 European and 500 non-European firms that made R&D investments between 2003 and 2007. They estimated two models: the first analyzed the effects of CSR on innovation using linear regression, while the second examined the reverse relationship (innovation's impact on CSR) through logistic regression due to its binary

dependent variable. Empirical validation was conducted using the two-stage least squares method for dynamic panel data models. Results from both models indicated a negative two-way relationship between CSR practices and innovation. The authors posited that not all CSR initiatives create value; some may even incur additional costs. Moreover, although socially responsible initiatives may be perceived positively by various stakeholders, these same stakeholders can also view them as detrimental to share values.

The study's results provide robust support for the hypothesis that there exists a statistically significant relationship between environmental management and cost competitive advantage. Cost competitive advantage refers to a company's ability to produce goods or services at a lower cost compared to its competitors while maintaining or even enhancing product quality and value (Barney J. B., 2010). This advantage allows the company to achieve higher profit margins, offer competitive prices to customers, and potentially gain a larger market share. In essence, it signifies the efficiency and cost-effectiveness of a company's operations, which, when improved through environmental management practices, can have significant implications. Moreover, the study delves into the concept of differentiation competitive advantage, which is a strategy that allows a business to distinguish its goods or services from those of its rivals in a manner that creates unique and appealing value for consumers. Various strategies, such as product design, branding, quality, innovation, customer service, or marketing, can be employed to achieve this distinctiveness. Differentiation aims to make a company's products or services stand out in the market, making them more attractive to customers willing to pay a premium for the value they offer or the unique features they provide (López-Gamero, 2023). This differentiation can result in increased customer loyalty, reduced price sensitivity, and improved profit margins. Importantly, the study underscores that effective environmental management practices can have a direct impact on reducing production or operational expenses, enhancing overall competitiveness, and contributing to differentiation competitive advantage. This implies that organizations that prioritize environmental management can leverage their sustainability initiatives as key differentiators in the market. By doing so, they can strengthen their competitive position and market standing, attracting environmentally conscious customers and reaping the benefits of enhanced profitability and market share. In summary, the study's findings highlight the significant role of environmental management not only in achieving cost competitive advantage but also in facilitating differentiation competitive advantage. It underscores the potential for organizations to enhance their competitiveness and market positioning by embracing effective environmental

management practices, thereby aligning sustainability with business success (Kao and Hwang, 2008)

The study emphasizes the importance of agility, innovation, and environmental management in shaping sustainable and competitive practices in the telecom sector. It emphasizes the need for telecom companies to be adaptable and responsive to market dynamics, customer preferences, and technological advancements. An agile approach allows companies to quickly adjust their strategies and operations, ensuring they remain relevant and competitive. Innovation is a critical driver of sustainability and competitiveness in the sector, with both radical and incremental innovations shaping the industry's future. Telecom companies must continuously invest in innovation to develop new technologies, services, and solutions that meet customer needs and differentiate them from competitors. Environmental management is also crucial, as telecom firms should adopt robust practices to minimize their ecological footprint, ensure regulatory compliance, and contribute to broader sustainability goals. Effective environmental management aligns with corporate social responsibility, yields cost efficiencies, and enhances market positioning. The study's insights guide telecom industry stakeholders and policymakers, emphasizing the need for agility, innovation, and a strong environmental management culture as cornerstones of sustainable and competitive practices.

5.1 FUTURE RESEARCH AND DIRECTIONS

The development of a scale to measure the relationship between agility, innovation, and corporate social responsibility (CSR) on competitiveness in the telecommunication service sector has several significant implications, both in theoretical and practical contexts. First, the scale provides theoretical contributions to research in business management, telecommunications, and organizational studies. By incorporating agility, innovation, and CSR into a single framework, it offers a more holistic understanding of how these factors interact to enhance competitiveness. This fills a gap in the literature, particularly in the telecommunication service sector, where previous studies have often examined these constructs in isolation. The new scale offers a more comprehensive tool for measuring their combined impact, supporting further research into organizational strategies and performance.

From a practical perspective, the developed scale offers managers and decision-makers in the telecommunication industry a valuable diagnostic tool. It allows companies to assess their current levels of agility, innovation, and CSR and to understand how these factors contribute

to their competitive advantage. This can guide strategic decisions and investments in areas such as organizational flexibility, technological advancements, and corporate sustainability efforts. By identifying strengths and weaknesses, the scale can inform initiatives that enhance a company's competitiveness in an increasingly dynamic and socially responsible business environment.

Furthermore, the scale has implications for policymaking and industry regulations. Given that the telecommunication sector plays a critical role in economic and technological development, understanding how innovation, agility, and CSR drive competitiveness can help shape public policies that encourage sustainable and responsible business practices. Policymakers could use the insights from this scale to support telecommunication companies in becoming more adaptive and socially responsible, which in turn contributes to broader economic growth and societal well-being.

Finally, the scale can also be used for benchmarking and performance evaluation. Organizations can compare their performance against industry standards, competitors, or best practices using the scale. It can serve as a valuable performance measurement tool for companies seeking to understand how their efforts in agility, innovation, and CSR translate into real-world competitive advantages, driving improvements in both market positioning and organizational sustainability.

The study delves into the critical roles of agility, innovation, and environmental management in the telecommunications sector, highlighting their interconnectedness and significance in enhancing organizational performance. Given the rapid technological advancements and evolving consumer expectations, exploring partner-related agility could yield valuable insights. Collaborations with other industry players, technology providers, or even startups focused on sustainability can enhance agility and foster innovation. For instance, partnerships in research and development can lead to the creation of cutting-edge solutions that address both customer needs and environmental concerns (Bessant & Tidd, 2015).

Incremental innovation strategies present another avenue for enhancing sustainability practices. These strategies can enable telecom companies to gradually adopt new technologies and processes that improve their environmental performance. As noted by Trott (2017), incremental innovations often involve lower risks and can be integrated into existing operations more seamlessly. Research indicates that small, continuous improvements in processes, products, or services can lead to significant sustainability gains over time (Hoffman, 2018).

Understanding the dynamics of Corporate Social Responsibility (CSR) is crucial in this context. Studies have shown that effective CSR initiatives can lead to improved environmental

management outcomes (Kumar & Singh, 2020). By examining how CSR initiatives impact environmental management, researchers can provide insights into best practices and effective strategies that telecom companies can adopt. This understanding can also help identify potential synergies between CSR activities and environmental management, facilitating a more integrated approach to sustainability (Benn & Bolton, 2011).

Longitudinal studies are essential for gaining a comprehensive perspective on the long-term effects of agility, innovation, and environmental management on sustainability and competitiveness. Such studies can track changes over time, providing valuable insights into how these factors interact and evolve within the dynamic telecommunications landscape (Sarkis & Talluri, 2002). For instance, research has indicated that organizations that continuously adapt their strategies in response to environmental changes tend to perform better in terms of sustainability (Bennett & Rundle-Thiele, 2005).

Comparative analyses between different telecom companies, regions, or regulatory environments can further illuminate the relationship between agility, innovation, and environmental management. By examining case studies of companies operating under various conditions, researchers can identify successful strategies and practices that can be replicated or adapted in different contexts (Cohen & Levinthal, 1990). This comparative approach can also reveal how external factors, such as regulatory frameworks and market dynamics, influence organizational behavior and performance.

From a policy perspective, encouraging agility, innovation, and environmentally responsible practices through regulations and incentives is crucial. Policymakers can establish frameworks that support sustainable practices in the telecom sector, such as tax incentives for green initiatives or funding for R&D in sustainable technologies (Porter & van der Linde, 1995). Additionally, engaging with stakeholders—including customers, employees, and community members—can help telecom companies understand their expectations regarding sustainability and identify areas for improvement (Freeman, 1984).

Enhancing employee environmental awareness through training and education is another critical factor in successfully adopting environmental management initiatives. Research has shown that employees who are knowledgeable about sustainability practices are more likely to engage in behaviors that support organizational sustainability goals (Avery et al., 2011). By fostering a culture of sustainability within the organization, telecom companies can encourage innovative thinking and proactive problem-solving related to environmental challenges.

Benchmarking and certification programs can further reinforce a company's commitment to responsible practices and enhance its reputation. Participating in recognized sustainability certifications can serve as a powerful marketing tool, demonstrating to consumers and stakeholders that the company is dedicated to environmental stewardship (Harrison et al., 2016). Additionally, such certifications can provide a framework for continuous improvement and accountability in sustainability efforts.

Market differentiation strategies could leverage the findings of this study by exploring innovative ways to distinguish services based on sustainability. Developing eco-friendly service packages or marketing campaigns that emphasize environmental commitments can resonate with increasingly conscious consumers (Peattie & Crane, 2005). By positioning themselves as leaders in sustainability, telecom companies can not only enhance their brand reputation but also attract a growing segment of environmentally aware customers.

In conclusion, this study provides a comprehensive roadmap for researchers, industry stakeholders, and policymakers aiming to advance sustainability practices and competitiveness within the telecommunications industry. By fostering a collaborative environment, emphasizing innovation, and committing to responsible environmental management, the telecom sector can navigate the challenges of the modern marketplace while contributing to a more environmentally sustainable and prosperous future. The interplay of these factors underscores the importance of a holistic approach to sustainability, where agility and innovation are leveraged to create lasting positive impacts on both the industry and society at large.

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Annexure
QUESTIONNAIRE

Assalam-o-Alaikum. I am *Zainab Bashir*, MS student of Engineering Management, College of Electrical and Mechanical Engineering, NUST, Islamabad. I am performing a research thesis with the title, *"Determining the Relationship of Agility, Innovation and Corporate Social Responsibility on the Competitiveness of telecommunication service sector"*. Therefore, I am conducting this survey to gather required information for analysis in order to improve the competitiveness in the telecommunication service sector.

Personal Information:

Gender: Male ☐ ☐ Female

Age (years): 20 – 35☐ 36 - 49 ☐ 50 - 65 ☐

Designation: Trainee ☐ ☐Middle Manager ☐ Sr. Manager ☐ Executive

Educational Qualification (completed): Bachelors (BA, BS, BBA) ☐ Master (MA, MS,☐ MBA)

Organization's Name (optional but recommended):

_____

Informed Consent:

Do you allow to share this feedback publicly for publication purpose? Yes ☐ No ☐

Please select your response against each statement and tick (✓) appropriate.

Agility						
Item no.	**Statements**	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1.	**The requirements of customers are met who need a quick response, as well as their special needs in demand**					
2.	**Supply (equipment, hardware, service) capability is adjusted/managed according to**					

	fluctuations in demand (e.g. seasonality)					
3.	**Even if there are problems with the receipt of products or services from our suppliers, quick adjustments are made**					
4.	**Quick decisions are made that respond to market changes and meet customer needs**					
5.	**Continual investigation is observed how to reinvent or restructure processes to better serve our customers and market**					
6.	**Quick actions are ensured to consider market changes as opportunities for improvement**					
7.	**Detailed information from suppliers/vendors are obtained about services and products**					
8.	**Resources and capabilities utilization are made quickly towards suppliers in order to increase the quality of services and products**					
9.	**Suppliers are preferred based on the received output in the form of lower costs, higher quality and improved delivery times**					
10.	**The organization should adapt its operations in response to sudden changes in market conditions.**					
11.	**Organization should be flexible in operational processes when implementing new changes or updates.**					
12.	**The organization should reallocate resources (e.g., personnel, equipment) to address emerging needs or opportunities**					
13.	**The organization should adopt and integrate new technologies or methods into its operations.**					

14.	**The organization should incorporate customer feedback into its products or services.**					
15.	**The organization should responsive is your customer service team to customer inquiries or complaints.**					
Innovation						
16.	**Accept customers' requests beyond the services and products it already offers**					
17.	**Develop new services and products for customers**					
18.	**Adopt new distribution channels**					
19.	**Explore new types of customers for telecommunication service sector**					
20.	**Improve the development of the services currently being offered**					
21.	**Making minor adjustments to the services and products currently offered**					
22.	**Improve services and products that the telecommunication service sector currently offers to its customers**					
23.	**Enhance the efficiency in the realization of the services offered by the telecommunication service sector**					
24.	**Bring more services for the existing customers**					
25	**Organization should invest in research and development activities aimed at breakthrough innovations**					
Cooperate Social Responsibility (CSR)						
26.	**Employees of telecommunication service sector are resistant to change.**					

27	**Telecommunication service sector is aware of its social responsibilities**					
28.	**Telecom business success is connected to CSR**					
29.	**CSR is equally important to generate organizational profit**					
30.	**CSR should be integrated into core organizational strategies in telecommunication service sector**					
31.	**Customers are interested to know about CSR practices in telecommunication service sector**					
32.	**Telecommunication industry cannot afford to be socially responsible and to implement CSR**					
33.	**Telecommunication service sector does not have any impact on the society**					
Environmental Management						
34.	**The telecommunication service sector analyzes its environmental impact**					
35.	**The telecommunication service sector practices to reduce energy and/or water usage for operational functions**					
36.	**The telecommunication service sector recycles waste (building waste, product waste etc.)**					
37.	**The telecommunication service sector uses products that are sustainable and environmentally friendly**					
38.	**The telecommunication service sector selects suppliers who care for the natural environment**					
39.	**The telecommunication service sector provides training on environmental issues for its employees**					

40.	**The telecommunication service sector encourages its employees to reduce water and/or energy consumption**					
41.	**The telecommunication service sector motivates its employees to consume green products**					
42.	**The telecommunication service sector encourages its employees to participate in environmental initiatives**					
Competitiveness						
43.	**Environmental management practices minimize the expenses in the telecommunication service sector**					
44.	**Environmental management results in improving productivity of telecommunication service sector**					
45.	**Efforts are being made to achieve economies of scale by telecommunication service sector**					
46.	**Environmental management has a role in developing brand's image of telecommunication service sector.**					
47.	**Your organization is providing a better-quality of service than its competitors**					
48.	**The number of complementary services offered to the customer to ensure value addition is higher in your organization than its competitors.**					
49.	**Customers experience a better service from your organization as compared to its competitors**					
50.	**Efforts are made in the organization to exceed customers' expectations**					
51.	**The organization incorporates relevant innovations in providing better services**					

52.	**Organization should articulate its unique selling propositions compared to competitors.**					