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**THE EFFECTS OF LEADERSHIP STYLES,
ACCREDITATIONS AND MOTIVATION ON HIGHER
EDUCATION PERFORMANCE: THE MEDIATING
ROLE OF QUALITY CULTURE**



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January 2024**

**THE EFFECTS OF LEADERSHIP STYLES, ACCREDITATIONS AND
MOTIVATION ON HIGHER EDUCATION PERFORMANCE:
THE MEDIATING ROLE OF QUALITY CULTURE**



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**Thesis Submitted to
College of Business
Universiti Utara Malaysia,
in Fulfilment of the Requirement for the Degree of Doctor of Philosophy**

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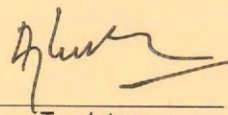
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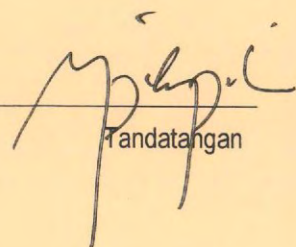
Tajuk Tesis / Disertasi
(Title of the Thesis / Dissertation) : **The Effects of Leadership Styles, Accreditations and Motivation on Higher Education Performance: The Mediating Role of Quality Culture**

Program Pengajian
(Programme of Study) : **Doctor of Philosophy**

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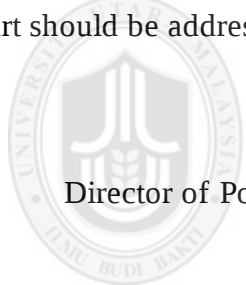
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Abstract

In Pakistan, the establishment of new universities has been on the rise for the past two decades. However, their performance has concurrently declined or remained stagnant, as evident in global rankings due to various factors. This study aims to investigate the effects of leadership styles, accreditation, and motivation on higher education performance, with quality culture acting as a mediator. Utilising the Resource-Based View (RBV) theory and a quantitative survey methodology, this study thoroughly examines public and private universities in Pakistan. In this research, the unit of analysis is the institutions, with university administrators as the respondents. Data collection involves stratified random sampling, resulting in a robust sample of 105 participants with a 70% response rate. The study reveals that accreditation, motivation, and quality culture are directly linked to higher education performance. However, no empirical evidence supports the relationship between leadership styles and higher education performance. Additionally, the research establishes that quality culture mediates the link between leadership styles, accreditation, motivation, and higher education performance in Pakistani universities. The study's limitations are the sole reliance on administrative managers' perspectives in Pakistani universities and a relatively small sample size. By integrating crucial resources, such as emphasising the strategic importance of accreditation, introducing the notion of quality culture as a mediator, and acknowledging the vital role of faculty motivation in enhancing human capital, this study strengthens the RBV theory within higher education to elevate the performance of universities. Also, this research has practical implications for various stakeholders, like policymakers, university administrators, and quality managers, by underscoring the pivotal roles of leadership styles, accreditation, and motivation in fostering quality culture and enhancing institutional performance.

Keywords: leadership styles, accreditation, quality culture, higher education performance, university performance

Abstrak

Di Pakistan, penubuhan universiti baharu telah meningkat sejak dua dekad yang lalu. Namun begitu, prestasi universiti-universiti ini telah menurun atau kekal tidak berubah, seperti yang terbukti dalam kedudukan global disebabkan pelbagai faktor. Kajian ini bertujuan untuk meneliti kesan gaya kepimpinan, akreditasi, dan motivasi ke atas prestasi pendidikan tinggi, dengan budaya kualiti bertindak sebagai pengantara. Dengan menggunakan teori Pandangan Berasaskan Sumber (RBV) dan metodologi tinjauan kuantitatif, kajian ini mengkaji secara menyeluruh universiti awam dan swasta di Pakistan. Unit analisis dalam kajian ini adalah institusi, dengan pentadbir universiti sebagai responden. Pengumpulan data dijalankan secara persampelan rawak berstrata dan menghasilkan sampel yang mantap sebanyak 105 peserta dengan kadar tindak balas sebanyak 70%. Kajian ini mendedahkan bahawa akreditasi, motivasi, dan budaya kualiti dikaitkan secara langsung dengan prestasi pendidikan tinggi. Walau bagaimanapun, tiada bukti empirikal yang menyokong hubungan antara gaya kepimpinan dan prestasi pendidikan tinggi. Selain itu, kajian ini juga membuktikan bahawa budaya kualiti menjadi pengantara hubungan antara gaya kepimpinan, akreditasi, motivasi dan prestasi pendidikan tinggi di universiti-universiti Pakistan. Batasan kajian ini adalah pergantungan tunggalnya pada perspektif pengurus pentadbiran di universiti Pakistan dan saiz sampel yang agak kecil. Dengan menyepadukan sumber penting, seperti menekankan kepentingan strategik akreditasi, memperkenalkan tanggapan budaya kualiti sebagai pengantara dan mengiktiraf peranan penting motivasi fakulti dalam meningkatkan modal insan, kajian ini mengukuhkan teori RBV dalam pendidikan tinggi untuk meningkatkan prestasi universiti. Selain itu, kajian ini juga memberi implikasi praktikal bagi pelbagai pihak berkepentingan seperti penggubal dasar, pentadbir universiti dan pengurus kualiti dengan menggariskan peranan penting gaya kepimpinan, akreditasi dan motivasi dalam memupuk budaya kualiti dan meningkatkan prestasi institusi.

Kata kunci: gaya kepimpinan, akreditasi, budaya kualiti, prestasi pendidikan tinggi, prestasi universiti

Acknowledgement

I begin by expressing my deep gratitude to Allah Almighty for His grace and mercy. I am sincerely thankful to my main supervisor, Associate Prof. Dr. Che Azlan bin Taib, for his consistent support, guidance, and valuable feedback during my Ph.D. journey. Beyond his role as my supervisor, he has been a constant source of inspiration and mentorship. I also acknowledge my co-supervisor, Associate Prof. Ts. Dr. Mohd. Rizal bin Razalli, for his ongoing encouragement and guidance during my Ph.D. journey.

I extend my appreciation to the internal examiners for their invaluable feedback during the colloquium and proposal defense stages. I am profoundly grateful to Dr. Kamran Moosa, CEO of the PIQC Institute of Quality, Pakistan, and the esteemed Directors of Quality Enhancement Cells (QECs), along with distinguished university professors, for their insightful contributions during the pre-testing phase of the research instrument.

I dedicate this research to my late father, whose unwavering support, despite limited resources, served as a constant source of inspiration and motivation for me and my siblings. His belief in the importance of education inspired us to prioritize learning and strive for future success. I am equally thankful to my affectionate mother, as well as my dedicated brothers and sisters, who have been unwavering companions on this journey toward achieving my goals.

My heartfelt gratitude goes out to all the survey participants from both public and private universities in Pakistan, whose generous participation was vital to the success of this study. Lastly, I want to express my sincere appreciation to my mentors, colleagues, and friends who provided invaluable assistance and guidance throughout my doctoral endeavors.

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List of Abbreviations

DAIs	Degree Awarding Institutions
EQA	External Quality Assurance
EMOT	Extrinsic Motivation
FM	Faculty Motivation
HE	Higher Education
HEC	Higher Education Commission
HEIs	Higher Education Institutions
HEP	Higher Education Performance
IQA	Internal Quality Assurance
ISO	International Organization for Standardization
IMOT	Intrinsic Motivation
LS	Leadership Style
MOT	Motivation
OP	Organizational Performance
QA	Quality Assurance
QAA	Quality Assurance Agency
QAC	Quality Assurance Committee
QC	Quality Culture
QEC	Quality Enhancement Cell
QM	Quality Management
QS	Quacquarelli Symonds
RP	Research Performance
SA	Self-Assessment
SQ	Service Quality
SP	Service Performance
TFL	Transformational Leadership Style
TNL	Transactional Leadership Style
TP	Teaching Performance

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter establishes the rationale for this study by discussing the background of the study, followed by exposition of the research problem, and defines the purpose of the study based on a preliminary review of the literature to fill the identified theoretical and practical gaps. The chapter also discusses the research questions that have been raised after the preliminary review of the literature and the research objectives that the present study seeks to achieve. Furthermore, this chapter summarized the significance of the study in terms of theoretical and practical contribution in the context of higher education in Pakistan; followed by the scope, limitations, and definitions of key terms used in this study. Finally, the organization of the thesis that is being followed in this study is presented.

1.2 Background of the Study

Education forms the basis of a country's political, social, and economic development. Education contributes to the development of any country in many ways, including promoting research and development activities, ensuring economic and social progress, and improving the equitable distribution of wealth (Esmail, 2020). Likewise, Higher Education (HE) plays an indispensable role in today's global competitive environment. Köse and Korkmaz (2019) have argued that HE is among the key areas of global competition by virtue of its ability to influence and even change social development, science, technology, and the economy. Keeping in view the vital role of HE, researchers

have argued that Higher Education Institutions (HEIs) are instrumental for the societies to improve the enduring growth of nations (Dzimńska et al., 2018).

Despite being a developing country, Pakistan has a population of 207 million and ranks fifth in the world (Shakil, 2019). Since independence in 1947, the country has been still struggling to compete with other nations in the education sector. According to Ahmad et al. (2014), education is one of the most neglected areas in Pakistan, which has led to slow growth in all walks of life. They further argued that because education has been treated like a stepchild and all Pakistani governments have allocated minimal budgets to the education sector, the result is a poor quality education system (Ahmad et al., 2014), and decline in educational performance (Banuri, 2021; Murtaza & Hui, 2021; Nisar, 2019). Another author has expressed her views on the quality of higher education in Pakistan with these words: “quality higher education has never been seen as a priority in our society” (Tahir, 2022).

Besides, Pakistan's education system has traditionally been criticized by various academics and researchers for not meeting current and future challenges. According to Amir et al. (2020), Pakistan's current education system is not adequately prepared to meet the demand for quality education. Similarly, the researchers also posited that Pakistan's current educational system appears to be exhausted and unable to meet the needs of society due to certain weaknesses, including; a lack of competent teachers; poor evaluation systems; limited resources; poor infrastructure; ineffective educational policies and management systems; and poor links between educational institutions and industries, as well as political interference that prevents our educational system from accepting change (Bilal & Khan, 2012). A recent study also corroborates these findings

based on primary data collected from students that the quality of academic programs in Pakistani universities is not good (Iqbal et al., 2022).

Several studies suggested that education quality is a primary concern in Pakistani universities. Bilal and Khan (2012) argued that the constant growth and prosperity of modern societies depend mainly on the quality of HE. Moreover, according to Mastoi et al. (2019), academic quality is a significant factor in attracting and retaining students in HEIs. Besides, many other researchers also felt that the quality of HE in Pakistan is not up to standard and lags far behind developed countries (Mahesar, 2019; Shabbir et al., 2014; Hoodbhoy, 2009); and that is also evident in the international rankings of universities. The QS ranking of Pakistani Universities for the past five years is summarized in "Appendix A" at the end.

Though few researchers believe that the quality and performance of Pakistani universities have improved due to the implementation of quality assurance mechanisms (Hussain, 2015; Usmani & Khatoon, 2018). On the contrary, most of the researchers disagree and have found in their respective studies that the quality of higher education in Pakistan is poor (Ahmad et al., 2014; Amir et al., 2020; Banuri, 2021; Bilal & Khan, 2012; Hoodbhoy, 2009; Iqbal et al., 2022; Mahesar, 2019). Given the inconsistent findings, the research on the performance of HEIs is still inconclusive, so more academic efforts are needed, especially in the context of higher education in Pakistan.

The prior studies have emphasized the three basic functions and academic roles that HEIs must fulfill, including: (1) teaching; (2) research; and (3) service (Agasisti & Bertolotti, 2019; Edgar & Geare, 2013; Yilmaz & Kesik, 2010); similarly, few

researchers emphasized teaching and research to measure HE performance (Kivistö et al., 2019). Studies conducted in the Pakistani context also supported that areas including: teaching quality (Banuri, 2021; Hoodbhoy, 2009), research quality (Banuri, 2021; Hoodbhoy, 2009), and service quality (Nisar, 2019; Mastoi et al., 2019) are vulnerable due to poor quality of HE in Pakistan. However, most of these previous studies are essentially exploratory or diagnostic in nature (Amir et al., 2020; Mian, 2019; Shakil, 2019; Usman, 2014; Hoodbhoy, 2009); therefore, further studies based on primary data are needed to draw objective conclusions. This is also supported by some other authors who have suggested that university leaders should emphasize the quality of teaching, research, and other services offered to various interested parties using limited resources to overcome the prevailing challenges (Islam et al., 2021).

The quality of teaching is one of the problem areas of the poor performance of HE in Pakistan. In prior studies researchers have identified several reasons for poor quality of teaching, including: inappropriate/old content (Banuri, 2021; Murtaza & Hui, 2021; Hoodbhoy, 2009); absence of latest knowledge; poor teaching methods (Banuri, 2021; Murtaza & Hui, 2021); poor learning skills; poor evaluation systems (Banuri, 2021; Murtaza & Hui, 2021; Hoodbhoy, 2009); superficial hiring process of teachers with political interference (Banuri, 2021; Murtaza & Hui, 2021); student disciplinary problems (Hoodbhoy, 2009); academic scams by teachers (Hoodbhoy, 2009); shorter working days (Hoodbhoy, 2009); and lack of faculty members with PhDs (Murtaza & Hui, 2021; Hoodbhoy, 2009).

The quality of research is another weak area, leading to poor performance of HE in Pakistan. Researchers have highlighted some reasons for the poor quality of research in

the context of HE in Pakistan, including: corrupt culture; scam/fraud journals; poor criteria for evaluating research work systems (Banuri, 2021; Hoodbhoy, 2009); lack of proper (quality) research; imbalance between teaching and research; and poor research skills (Nisar, 2019). The quality of research in public universities in Pakistan is uncertain due to a couple of reasons, first because of a corrupt culture; and second, it is a seriously misunderstood concept in academia and the criteria for evaluating its value are generally incorrect (Hoodbhoy, 2009). According to (Banuri, 2021), there are a number of reasons for poor quality research in Pakistani universities, including: (1) no criteria to evaluate the faculty's research work; (2) no criteria for publication in local journals; (3) survival issue of local journals as there are many journals in Pakistan so they are just waiting to publish something to generate income; and (4) most journals in Pakistan are scam/fraud resulting in poor research performance.

The quality of service is also one of the neglected areas causing the poor performance of HE in Pakistan. The prior literature lacks a widely accepted definition of service quality. For some, service quality is an "elusive" concept (Parasuraman et al., 1985; Smith, 1999); while others considered it "unsolved" (Caruana et al., 2000); and "far from conclusive" (Athanasopoulos, 2000). Service quality is considered as a comprehensive evaluation of a service by a customer or other interested parties to determine whether the service meets or exceeds expectations (Eshghi et al., 2008). Since, there are multiple stakeholders involved in HE (Hwarng & Teo, 2001), therefore, some researchers perceived students as primary customers (Tavares & Cardoso, 2013; Eagle & Brennan, 2007); in contrast, few researchers posited that the faculty are real customers, while students are the output of the HE system (Owlia & Aspinwall, 1996). In either case, the importance of service quality cannot be ignored, and service quality

is equally important to all stakeholders, including students, faculty, government, employers, or society. This is because researchers argued that providing quality services is the ultimate goal of most universities, which also gives them a competitive advantage over their competitors (Mastoi et al., 2019). However, according to Nisar (2019), the quality of student services in Pakistani universities is inadequate and poor, which affects the HE system in Pakistan.

Besides, researchers have also identified some other prominent issues that contribute to the poor quality of HE around the world and especially in Pakistan. Such as issues related to the governance and top management support in HEIs (Albaqami, 2015; Usman, 2014); infrastructure facilities (Mian, 2019; Albaqami, 2015; Bilal & Khan, 2012) issues related to the faculty and their motivation (Mian, 2019; Albaqami, 2015; Bilal & Khan, 2012); cultural problems (Albaqami, 2015; Bilal & Khan, 2012) are the most prominent.

To begin with, issues of governance and top management support in HEIs (Albaqami, 2015; Usman, 2014) are related to leadership style, and that is the first independent variable in this study. Although there is no consensus on the definition of leadership, yet researchers have defined it in their own way. House et al. (2004) defined leadership as “ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organizations of which they are members”. Leadership plays a pivotal role in improving organizational performance. Leadership is one of the most significant drivers to improve organizational performance, similarly the organization’s leadership style affects its overall results (Al-Khaled & Fenn, 2020). According to Mian (2019), top university leaders including Vice-Chancellors (VCs),

Deans, and Heads of Departments (HODs) have a key role in the smooth running of university affairs, especially in those universities whose systems are not yet mature. However, the appointment and performance of Pakistani university leaders are under the influence of politics. For example, the appointment and tenure of VCs are judged primarily by metrics such as launching new programs, enrolling students, and awarding new jobs to please political authorities, rather than comply with the standards established by the universities themselves (Tahir, 2022).

Furthermore, the infrastructure facilities (Mian, 2019; Albaqami, 2015; Bilal & Khan, 2012) is another important aspect in the context of HEIs in Pakistan. Infrastructure within a university can include physical facilities such as buildings, classrooms, laboratories, libraries, and playgrounds; and non-physical facilities, such as management systems, quality assurance mechanisms, and policies and procedures for the smooth running of daily operations to provide quality education to students. Each country has established its own unique quality assurance system to enhance the quality of education. For instance, in Pakistan, Higher Education Commission (HEC) which is the main regulatory (accreditation) body has established a comprehensive quality assurance mechanism in Pakistan for higher education, including Self-Assessment (SA) or Internal Quality Assurance (IQA), to conduct self-assessment of academic programs; and accreditation system or External Quality Assurance (EQA), to accredit academic program and institutions (Batool & Qureshi, 2007). Standards and accreditation are considered as the backbone of any quality assurance system in HE. Standard is defined as both: “(1) a fixed criterion against which an outcome can be compared; and (2) a level of attainment” (Harvey, 2004). While, accreditation is a process for evaluating universities quality at institutional or program level through some external body based

on pre-determined minimal criteria or standards to formally award a status of recognition either with yes or no decision (Vlăsceanu et al., 2007). Researchers have argued that accreditation considerably impact the quality and excellence of HEIs (Kumar et al., 2020), by enabling HEIs to achieve and maintain quality standards, attract students (Dew, 2009; Dill, 2016), and raise academic standards and public accountability (Kumar et al., 2020).

Then, the issues related to the faculty and their motivation (Albaqami, 2015; Bilal & Khan, 2012; Mian, 2019) cannot be overlooked in any university, as they are the people who interact directly and frequently with students during their study period. Researchers have diverse views regarding motivation, such as power of a movement that integrates efforts to achieve satisfaction and accelerate awakening in which individuals work effectively and work together (Ambrose & Kulik, 1999); providing incentives to encourage people to act according to their wishes (Certo, 2019); a distinctive attribute that drives people to perform or not (Broussard & Garrison, 2004); an urge or mobilization force that can drive, direct, and organize human behaviors (Inceoglu et al., 2012); and a process of stimulating, directing, and supporting one's efforts to achieve a goal (Dewi & Wibowo, 2020). Besides, several studies have highlighted that motivation can affect academic and research productivity of faculty members (Agah et al., 2020; Chakraborty & Biswas, 2019; Schomaker, 2015).

Lastly, the crucial role of culture in improving both quality and organizational performance cannot be overlooked. Scholars emphasize that culture has a substantial influence on organizational functions, individual behavior, choices, and ultimately organizational performance (Wu et al., 2011). Likewise, it is contended that a strong

commitment to quality culture is crucial for various types of organizations, including schools, universities, nonprofits organizations, government agencies, and businesses (Adina-Petruța, 2014). A quality culture promotes continuous improvement by creating a positive work environment and a shared commitment to prioritizing quality in all operations, thereby promoting the development of quality practices that enhance overall performance (Ali & Musah, 2012; Hilman et al., 2017; Trewin, 2002). Al-Otaibi (2015) defined quality culture as the collective attitudes and values that elevate the quality of organizational services. Furrer et al. (2000) expound that quality culture places paramount importance on quality, applies quality benchmarks, enhances quality through innovative endeavors, heightens quality awareness, and engages in spiritual and cultural undertakings within the organization. Another perspective on quality culture in the realm of higher education characterizes it as the encompassing disposition of an institution, oriented towards the notion of quality and its application across all dimensions of its endeavors (Ali & Musah, 2012). Previous research predominantly delved into the realm of quality culture through qualitative inquiries (Adina-Petruța, 2014; Bendermacher et al., 2017; Lycke & Tano, 2017; Njiro, 2016; Tutko, 2019). Conversely, in quantitative studies, researchers have predominantly examined quality culture as a predictive variable and have discovered a positive association with university performance (Hilman et al., 2017; Katwalo & Asienga, 2015), workforce performance (Ali & Musah, 2012), service quality (Iqbal et al., 2023; Kartini et al., 2023), and infrastructure quality (Kartini et al., 2023).

Nevertheless, previous research has offered limited insights into the role of quality culture as a mediator in organizational performance. For instance, Alotaibi et al. (2016) embarked on an investigation to examine the mediating role of quality culture, revealing

its partial mediation in the connection between QMP and innovation performance. However, this study had limitations, being confined to Saudi hospitals with hospital directors as respondents. Furthermore, a study by Alotaibi et al. (2013) posited that quality culture mediated the association between TQM practices and the competitiveness of Saudi contractors. Additionally, Abubakar and Hilman (2017) conducted a study aiming to investigate how quality culture mediates the link between talent management dimensions and the organizational performance of universities listed in the QS ranking. Their findings indicated that quality culture played a mediating role in the relationship between talent retention, talent development, and organizational performance. However, it did not serve as a mediator in the relationship between talent attraction and university performance. In summation, while these infrequent investigations have been conducted, they fall short of furnishing definitive proof regarding quality culture's role as a mediator. Hence, further empirical substantiation is imperative, especially within the context of higher education in Pakistan.

1.3 Problem Statement

Historically, Pakistani universities have never been able to compete with universities internationally, and their ranking has always been lower than the best universities in the world. Previous researchers posit that this is due to the lack of emphasis on the quality of HE, resulting in a gradual decline in the performance and international rankings of Pakistani universities (Banuri, 2021; Meo & Jawaid, 2021; Murtaza & Hui, 2021; Nisar, 2019). According to the latest "QS World University Rankings 2022", eleven (11) Pakistani universities out of a total of 226 universities were able to secure a place in the QS ranking (QS, 2022). However, only six universities were among the top 1,000 universities while the remaining five universities were between 1,000 and 1,200+,

except that no other Pakistani university managed to secure a place in the QS rankings (QS, 2022).

Many academics and practitioners are convinced that such poor performance in higher education is the result of poor teaching (Banuri, 2021; Hoodbhoy, 2009; Mahesar, 2019), research (Banuri, 2021; Hoodbhoy, 2009; Mahesar, 2019; Mian, 2019), and service (Abbas, 2020; Arrieta & Avolio, 2020; Cheruiyot & Maru, 2013; Gupta & Kaushik, 2018; Mastoi et al., 2019; Nisar, 2019) within Pakistani universities. However, these studies are mostly exploratory in nature and there is no evidence that any researcher has attempted to examine HE performance by integrating these three dimensions. Therefore, a new study is required operationalizing the "Higher Education Performance" with three dimensions: "Teaching Performance" (TP); "Research Performance" (RP); and "Service Performance" (SP) in Pakistani universities.

The crucial role of leadership has been widely recognized, as leaders influence and motivate people to make them productive in any organization (Daumiller et al., 2020), and are considered fundamental drivers for improving organizational performance (Akpapere et al., 2019; Al-Khaled & Fenn, 2020; Hallo et al., 2020; Saleh, Nusari, Habtoor, et al., 2018; Velu et al., 2017). Although there are various leadership styles in the previous literature, most authors have advocated the use of transformational leadership style and transactional leadership style due to their significant and positive impact on organizational performance (Al Khajeh, 2018; Asimwe et al., 2016; Bass, 1985; Khan et al., 2014; Mgeni & Nayak, 2016; Noruzy et al., 2013; Saad & Abbas, 2019; Saleh, Nusari, Habtoor, et al., 2018).

Researchers have found leadership among the main causes of poor quality and declining performance in Pakistani universities (Arooj, 2018; Asif et al., 2013; Khan et al., 2018; Shakil, 2019; Torlak & Kuzey, 2019; Usman, 2014). But, much of the earlier work on leadership was exploratory in nature (Khan & Din, 2016; Khan et al., 2018; Shakil, 2019; Usman, 2014). In contrast, only a handful of empirical studies investigated leadership styles, but mainly in relation to employee satisfaction and performance (Torlak & Kuzey, 2019); and TQM implementation in Pakistani universities (Arooj, 2018). There is little evidence that researchers attempted to examine leadership style in relation to the organizational performance in Pakistani universities. For example, a study conducted at a public university in Pakistan revealed that laissez-faire, transactional, and transformational leadership are positively correlated with organizational performance (Ali, 2019). But in a broader context, the findings are inconsistent. For some, transformational leadership has a positive and significant impact on organizational performance (Al Khajeh, 2018; Ohemeng et al., 2018; Saad & Abbas, 2019; Saleh, Nusari, Ameen, et al., 2018), while for others transactional leadership has more influence on organizational performance (Abubakar & Ahmed, 2017; Al Khajeh, 2018; Ohemeng et al., 2018; Saad & Abbas, 2019; Saleh, Nusari, Ameen, et al., 2018). The lack of empirical evidence and inconsistent findings in the previous literature on leadership styles and higher education performance motivates further research, especially in the Pakistani context.

In the same way, the accreditation process, also known as External Quality Assurance (EQA), has a fundamental role for HEIs to guarantee the quality of academic programs and of institutions as a whole. Accreditation is the most important pillar for assuring quality through specialized accreditation agencies in the context of HE (Schomaker,

2015). Accreditation is performed to assess the quality of the academic programs in the HEIs (Hegji, 2020; Vlăsceanu et al., 2007), or HEIs as a whole (Vlăsceanu et al., 2007). Several studies have emphasized the critical role of accreditation in HE. Some found positive relationship between accreditation and factors such as, improved teaching/learning in an academic setting (Makhoul, 2019); and university management activities (Nguyen & Ta, 2017); quality and excellence of HEIs (Kumar et al., 2020). Nevertheless, in few studies researchers found a partial or insignificant effect of accreditation. Jalal et al. (2017) found that accreditation councils (NACTE, PEC and QECs) have a limited role in ensuring the quality of programs and the attributes development of graduates in Pakistani universities. Likewise, Jalal et al. (2020) posited that NACTE accreditation mechanism for teacher training is less effective in providing adequate, modern and quality education to teachers in Pakistan. Besides, Dattey et al. (2017) have found that accreditation has no impact on the quality of input factors, including curriculum, faculty employment, student-staff ratio, and library facilities. These inconsistent results from qualitative and quantitative studies call for further investigation by researchers regarding the accreditation and performance of higher education in the university context.

The role of motivation, especially from the perspective of faculty members in improving HE performance, can never be undermined. Faculty members are an integral part of any institution and are responsible for conducting various activities at the institution (Mati, 2018). However, prior studies have paid little attention to the faculty motivation (FM) for several reasons, including: (1) socially intimidating and methodological problems; (2) the previous researchers' belief that the faculty is highly motivated; and (3) the researchers' perception that the faculty members have no

problem to solve (Daumiller et al., 2020). Similarly, much of the earlier work on FM was predominantly qualitative in nature, in which researchers attempted to explore the various motivating factors/ issues for teachers in HE (Chakraborty & Biswas, 2019; Rahnuma, 2020; Rasheed et al., 2016; Sahito & Vaisanen, 2018). In contrast, few empirical studies have attempted to examine FM as an independent variable, their findings showed a partial effect on lecturers performance (Dewi & Wibowo, 2020); and significant impact on HRD and competitiveness of university (Mynzhanova et al., 2018). However, there is little or no evidence of any study that has examined FM in relation to HE performance. While, another study was conducted at Malaysian public universities to examine employee motivation as a dependent variable (DV), and the results showed that empowerment of employees has a significant positive effect on their motivation (Hanaysha & Hussain, 2018). In short, there is a lack of convincing evidence on the relationship between motivation and higher education performance in the previous literature, which prompts further research.

Furthermore, to effectively manage the interrelationships associated with academic quality and university performance, another pivotal strategy involves fostering a culture of quality within universities. It is contended that culture can exert a substantial impact on organizational functioning, individual conduct, and decision-making, ultimately influencing the overall performance of the institution (Wu et al., 2011). However, despite its wide recognition and use, the concept of quality culture lacks a precise and universally accepted definition in the existing literature (Nygren-Landgärd et al., 2022; van Kemenade, 2023). This lack of consensus is mainly attributed to the dynamic and continually evolving nature of quality culture (Verschueren et al., 2023). Consequently, it becomes imperative for each university to adapt its understanding of quality culture

to its specific needs (Nygren-Landgärds et al., 2022). Ali and Musah (2012) provided a definition of quality culture as the holistic disposition of an institution that centers around the notion of quality and extends its application to every facet of its operations. In prior literature, many scholars have aimed to explore the concept of quality culture in their studies. However, the prevailing approach in most of these studies has been qualitative (Adina-Petruța, 2014; Bendermacher et al., 2017; Lycke & Tano, 2017; Njiro, 2016; Tutko, 2019), resulting in a dearth of substantial empirical evidence. Conversely, in quantitative studies, researchers have predominantly investigated quality culture as a predictive variable, with their findings consistently demonstrating a significant influence of quality culture on university performance (Hilman et al., 2017; Katwalo & Asienga, 2015), workforce performance (Ali & Musah, 2012), service quality (Iqbal et al., 2023; Kartini et al., 2023), and infrastructure quality (Kartini et al., 2023).

In prior literature, several researchers attempted to investigate leadership styles in relation to quality assurance practices, service excellence, and the cultivation of quality culture and found positive associations (Ali et al., 2015; Anwar, 2020; Atasoy, 2020; Herminingsih et al., 2020; Wijaya et al., 2019). Similarly, transformational, and transformational leadership styles were also found to be positively and significantly associated with quality culture (Ali et al., 2015; Anwar, 2020). Moreover, studies have also found a positive impact of accreditation on quality culture in the university context (Sharma, 2018; Terra & Berssaneti, 2017), and the role of "staff motivation and engagement" as one of the important dimensions of quality culture, which enables quality in universities (Rahnuma, 2020). Additionally, a number of studies have examined quality culture as a predictive variable, consistently confirming its significant

influence on a range of factors, such as workforce performance (Ali & Musah, 2012), quality management practices including infrastructure, and core practices (Wu, 2015), quality performance (Wu, 2015), service quality (Iqbal et al., 2023; Kartini et al., 2023), as well as university performance (Hilman et al., 2017; Katwalo & Asienga, 2015; Rifa'i et al., 2018).

The findings of these studies also provide directional cues that indicate the potential for quality culture to function as a mediator, thereby revealing concealed or hidden effects attributed to quality culture within these associations. The principles elucidated by Baron and Kenny (1986) underscore that the potential manifestation of a mediating effect is attainable when explicit linkages are present not solely between the independent variable and the dependent variable, but additionally between the independent variable and the mediating variable, and furthermore, between the mediating variable and the dependent variable.

Nevertheless, unlike Baron and Kenny (1986) restrictions, Preacher and Hayes (2008) refrain from imposing such restrictions as the direct effects of the independent variable on both the dependent and mediating variables, as well as the direct effect of the mediator on the dependent variable. They further assert that at the core of mediation lies the elucidation of the complex relationship between independent and dependent variables through one or more mediating variables (Preacher & Hayes, 2008a).

The existing literature has only delved into a handful of studies investigating the mediating role of quality culture. These studies have examined associations like the one between talent management dimensions and university performance (Abubakar &

Hilman, 2017), the link between quality management practices (QMP) and innovation performance within Saudi hospitals (Alotaibi et al., 2016), as well as the relationship between TQM practices and the competitiveness of Saudi contractors (Alotaibi et al., 2013). In these cases, the findings revealed instances of partial or full mediation within the proposed relationships. Despite these insights, due to the scarcity of investigations in this domain, there exists inconclusive evidence regarding the part played by quality culture as a mediator across diverse contexts. Consequently, it is essential to undertake further investigation into the notion of quality culture as a mediating variable, as underscored by certain researchers (Abubakar & Hilman, 2017; Al-Otaibi, 2015).

To sum up, the preliminary review of the literature led to the conclusion that leadership styles, accreditation, and motivation possess the potential to notably influence higher education performance by shaping the quality culture. Thus, the purpose of this survey-driven study was to investigate how leadership styles, accreditation, and motivation influence higher education performance (measured across three dimensions: TP, RP, and SP) via the mediating role of quality culture within Pakistani universities.

1.4 Research Questions

There are no strict principles about the number of research questions in the literature, but the general rule is to have the minimum number needed, but no less. Some researchers suggest only one or two central (main) research question, with or without multiple subsidiary (specific) research questions (Andrews, 2003; Creswell, 2014). Considering the suggestions of the preceding sections, the major concern of this study is *“What is the relationship between leadership styles, accreditation, motivation, and higher education performance through the mediating role of quality culture in*

Pakistani HEIs?” Accordingly, the main research question is followed by ten specific research questions, each outlined below:

- i. *What is the relationship between leadership styles and higher education performance in Pakistani HEIs?*
- ii. *What is the relationship between accreditation and higher education performance in Pakistani HEIs?*
- iii. *What is the relationship between motivation and higher education performance in Pakistani HEIs?*
- iv. *What is the relationship between leadership styles and quality culture in Pakistani HEIs?*
- v. *What is the relationship between accreditation and quality culture in Pakistani HEIs?*
- vi. *What is the relationship between motivation and quality culture in Pakistani HEIs?*
- vii. *What is the relationship between quality culture and higher education performance in Pakistani HEIs?*
- viii. *Does quality culture mediate the relationship between leadership styles and higher education performance in Pakistani HEIs?*
- ix. *Does quality culture mediate the relationship between accreditation and higher education performance in Pakistani HEIs?*
- x. *Does quality culture mediate the relationship between motivation, and higher education performance in Pakistani HEIs?*

1.5 Research Objectives

This study intends to achieve the main research objective (RO) by addressing the relationship between leadership styles, accreditation, motivation, and higher education performance through the mediating role of quality culture in Pakistani HEIs. The main RO is followed by ten specific ROs, each outlined below:

- i. *To examine the relationship between leadership styles and higher education performance in Pakistani HEIs.*
- ii. *To examine the relationship between accreditation and higher education performance in Pakistani HEIs.*
- iii. *To examine the relationship between motivation and higher education performance in Pakistani HEIs.*
- iv. *To examine the relationship between leadership styles and quality culture in Pakistani HEIs.*
- v. *To examine the relationship between accreditation and quality culture in Pakistani HEIs.*
- vi. *To examine the relationship between motivation and quality culture in Pakistani HEIs.*
- vii. *To examine the relationship between quality culture and higher education performance in Pakistani HEIs.*
- viii. *To examine the mediating effect of quality culture between leadership styles and higher education performance in Pakistani HEIs.*
- ix. *To examine the mediating effect of quality culture in relation to accreditation and higher education performance in Pakistani HEIs.*
- x. *To examine the mediating effect of quality culture on the relationship between motivation, and higher education performance in Pakistani HEIs.*

1.6 Significance of the Study

Based on the background of the study and the issues elucidated in the problem statement, the major concern of the present study was to examine the relationship between leadership styles, accreditation, motivation, and higher education performance, with special emphasis on the mediating role of quality culture within Pakistani universities. Additionally, this study assists researchers in comprehending the highlighted issues by addressing the following research questions:

- *What is the relationship between leadership styles and higher education performance in Pakistani HEIs?*
- *What is the relationship between accreditation and higher education performance in Pakistani HEIs?*
- *What is the relationship between motivation and higher education performance in Pakistani HEIs?*
- *What is the relationship between leadership styles and quality culture in Pakistani HEIs?*
- *What is the relationship between accreditation and quality culture in Pakistani HEIs?*
- *What is the relationship between motivation and quality culture in Pakistani HEIs?*
- *What is the relationship between quality culture and higher education performance in Pakistani HEIs?*
- *Does quality culture mediate the relationship between leadership styles and higher education performance in Pakistani HEIs?*

- *Does quality culture mediate the relationship between accreditation and higher education performance in Pakistani HEIs?*
- *Does quality culture mediate the relationship between motivation, and higher education performance in Pakistani HEIs?*

After thoroughly investigating the above research questions, this study provides interesting insights and a myriad of contributions that can be classified into the following two distinct categories:

1.6.1 Theoretical Contribution

This study enriches our comprehension of higher education and quality management by expanding upon the current knowledge. It is firmly grounded in the Resource-Based View (RBV) theory, presenting a valuable framework tailored to the higher education context. This framework delves into the intricate links between leadership styles, accreditation, motivation, and their combined effect on institutional performance. The study thoroughly examines how these factors align with RBV principles, and the resulting theoretical insights are outlined below.

Firstly, this study makes a significant contribution by employing the RBV theory within the realm of higher education. RBV theory posits that a firm's competitive advantage and performance are closely linked with its resource base, which encompasses both tangible and intangible assets, as well as organizational capabilities (Barney, 1991; Barney & Clark, 2007). This study contributes to RBV theory by conceptualizing leadership styles, accreditation, and motivation as valuable, rare, difficult to imitate, and irreplaceable resources in higher education institutions. This study examines their interaction, transformative potential, heterogeneity, and influence on the development

of a quality culture and performance outcomes. These contributions are consistent with the core principles of RBV, which emphasize the critical role of resources in achieving competitive advantage and sustaining high performance.

Secondly, the study underscores the need for a nuanced interpretation of the RBV theory in higher education. It suggests that not all valuable resources, like transformational and transactional leadership styles, have a direct and substantial impact on performance. This nuanced perspective contributes to discussions on RBV's adaptability across diverse contexts. Additionally, the study emphasizes the pivotal role of quality culture as an intermediary variable between leadership styles and higher education performance. This insight enriches the RBV framework by suggesting that the effects of resources, such as leadership styles, on performance may depend on the presence and strength of other resources, particularly quality culture. This finding encourages further exploration of resource complementarity within RBV. Moreover, the study's findings prompt further investigation into the role of leadership in Pakistan's higher education context. Consequently, it may be beneficial to explore distinct leadership behaviors or approaches that could have a direct and substantial influence on performance within this distinct environment.

Thirdly, this study contributes to our understanding of RBV theory by acknowledging accreditation as a valuable asset that universities can utilize to enhance educational quality and elevate their performance in higher education. This strategic utilization provides a competitive edge over peer institutions. Additionally, the study enhances our grasp of resource complementarity within the RBV framework. It suggests that accreditation alone may not directly improve performance. Nevertheless, when coupled

with a robust quality culture, it can yield a significant impact. This underscores the imperative of adopting a comprehensive resource management approach within the higher education domain.

Fourthly, within the domain of higher education, this study innovatively puts forward the concept of quality culture as an intermediary variable. Previously, quality culture has received limited attention, primarily within the realm of the construction sector. Thus, this study contributes to the advancement of theoretical knowledge by suggesting and empirically examining how quality culture mediates the complex interplay between leadership style, accreditations, motivation, and higher education performance. Through this research, fresh perspectives emerge regarding the fundamental mechanisms that propel enhancements in university settings.

Lastly, this study contributes to RBV theory by recognizing faculty members' intrinsic and extrinsic motivation as vital components of human capital in universities. Intrinsic motivation reflects passion, experience, and commitment, while extrinsic motivation involves external rewards and incentives. The study suggests how Pakistani universities can strategically integrate both types of motivation to improve overall performance, potentially aligning external rewards with intrinsic drivers to create a supportive work environment. Furthermore, in line with the RBV's emphasis on resource heterogeneity, this study highlights that faculty motivation varies among members, which introduces resource diversity within universities. This underscores the multifaceted nature of faculty motivation, encompassing both intrinsic and extrinsic factors, and their combined effect on teaching, research, and service performance in higher education. Additionally, the research expands the RBV perspective by emphasizing the role of

faculty motivations in mobility decisions, indicating that highly motivated faculty may contribute to an institution's long-term performance or seek better opportunities elsewhere. Furthermore, in line with the RBV's notion of resource integration and complementarity, the study suggests how Pakistani universities can strategically align the intrinsic and extrinsic motivations of faculty members to improve overall performance, potentially synchronizing external rewards with intrinsic motivations. to create a motivating work environment.

1.6.2 Practical Contribution

This study provides practical insights that bridge theory and real-world practice. It aids stakeholders in higher education and quality management, including policymakers, university leaders, administrators, and quality managers, in effectively leveraging valuable resources such as leadership styles, accreditation (strategies), and motivation to foster a culture of quality and enhance institutional performance. These practical contributions are elaborated upon below.

Firstly, the study imparts practical perspectives on formulating focused measures that harness transformational and transactional leadership approaches, along with intrinsic and extrinsic motivation, as well as accreditations, aiming to elevate the effectiveness of teaching, research, and services within Pakistani universities. These measures are poised to empower higher education authorities, university leadership, administrators, and quality managers in their endeavors to enhance the quality of academic programs and the overall standing of institutions.

Secondly, this study provides interesting insights into the mediating role of quality culture, revealing the importance of fostering a robust quality culture within universities through policies, processes, and actions aligned with an institution's core vision and mission. This study underscores the critical role of quality culture as an essential foundation for the effective implementation of quality assurance standards (especially accreditation standards) at program and institutional levels. Additionally, this investigation reaffirms that enhancing quality is a collective responsibility within a university, encompassing not only university leadership, administrators, and quality managers but also academic and non-academic staff.

Thirdly, this research has practical significance for universities, as it encompasses the customization of motivational tactics to harmonize intrinsic and extrinsic incentives. This approach aims to foster active faculty involvement, subsequently exerting a favorable impact on both the quality culture and overall university performance. The involvement of university leadership and administrators assumes a particularly crucial stance in elevating the motivational outlook of all faculty members. This involves finding equilibrium in their workload, given their multifaceted responsibilities within the university, spanning teaching, learning facilitation, assessment, research, and administrative functions.

Another practical contribution of this study is for higher education authorities and administrators, particularly quality managers operating within universities. They can utilize the insights from this study to enhance their accreditation procedures, guaranteeing that these processes not only align with external accreditation standards but also contribute to a culture of quality enhancement internally. The potency of the

quality culture ingrained within different university departments directly influences the robustness and efficacy of implementing accreditation standards at both programmatic and institutional tiers.

Additionally, this research presents a chance for universities to create holistic performance measures that go beyond conventional academic outcomes. These metrics would incorporate aspects such as impactful research, effective teaching, and the range of services provided to both internal and external stakeholders, all derived from the findings of this study. Consequently, this could lead to an elevation in the university's image and standing, ultimately driving improved performance and a competitive edge over other universities.

Finally, this study provides valuable insights to assist universities initiate change aimed at fostering a culture of excellence, taking into account the unique barriers and complexities of Pakistan's higher education landscape. The significance of university leadership cannot be overemphasized, as it plays a pivotal role in steering constructive transformation and fostering partnerships with fellow universities and industry stakeholders. These efforts help foster a quality-first culture through the collaborative exchange of best practices. Ultimately, this endeavor works in tandem to elevate the reputation and competitive edge of HEIs in Pakistan.

1.7 Scope and Limitations of the Study

1.7.1 Scope of the Study

This study encompassed both public and private universities across seven provinces/administrative units in Pakistan. To ensure representation, universities were

selected using stratified random sampling techniques. The survey targeted administrative managers, including Vice Chancellors, Deans, Directors, and Heads of Departments, as its respondents. It is worth emphasizing that only universities officially recognized by the HEC of Pakistan were eligible for participation in this study. The unit of analysis in this study was the university itself, with one administrative manager serving as the designated respondent for each institution. Data collection methods varied based on the geographical location of the universities. For remote universities, an online questionnaire was designed using "Google Forms" and administered electronically to administrative managers. In contrast, for universities situated in the central region of Punjab, paper-and-pencil questionnaires were personally distributed to the selected respondents.

As for the study variables, the study included three independent variables, one mediator variable, and one dependent variable. The independent variables were leadership styles (comprising two low-order constructs, transformational and transactional leadership), accreditation, and motivation (comprising two low-order constructs, intrinsic and extrinsic motivation). Likewise, the dependent variable was higher education performance (including three lower-order structures, teaching, research, and service performance). Furthermore, the mediating variable was quality culture, but without any lower-order structures.

1.7.2 Limitations of the Study

This study has some limitations. First, the study was limited to public and private universities located in seven provinces/administrative units of Pakistan. Second, since the study population was scattered throughout the country, a stratified random sampling

technique was used by dividing the population into seven strata, while universities were selected randomly from each stratum proportionally. Third, since the unit of analysis was the organization, only one respondent from one university was selected. Fourth, respondents who represented their universities were administrative managers, including VCs, Deans, Directors, and HODs. Furthermore, the study was based on a paradigm of positivism and thus employed a quantitative approach and collected data at a specific point in time using a closed-ended questionnaire based on a 5-point Likert scale. Another limitation was its research framework, as it was deduced from a previous theory and literature. The research framework consisted of leadership styles (transformational and transactional leadership), accreditation, and motivation (intrinsic and extrinsic motivation) as independent variables, while quality culture as a mediator and higher education performance (TP, RP, and SP) as the dependent variable. Therefore, future researchers should pay attention to explore other possible factors that may affect the higher education performance of universities around the world.

1.8 Definition of Key Terms

1.8.1 Higher Education Performance

Higher education performance is university-wide performance in the three core areas that lead to university success, namely teaching, research, and services.

1.8.2 Teaching Performance

The teaching performance of a university refers to the effectiveness with which faculty members help students achieve intended learning outcomes.

1.8.3 Research Performance

The research performance of a university refers to the effectiveness with which faculty and students carry out their research tasks within established time frames.

1.8.4 Service Performance

The service performance of a university refers to the effectiveness with which faculty and support staff satisfy the needs of internal and external customers.

1.8.5 Leadership styles

Leadership styles refer to the ways in which leaders influence, motivate, or direct subordinates or followers to achieve desired goals.

1.8.6 Transformational Leadership Style

Transformational leadership refers to a leadership style that encourages, motivates, inspires, and develops followers to bring about positive change in the prevailing environment to achieve desired goals.

1.8.7 Transactional Leadership Style

Transactional leadership refers to a leadership approach that works on a reciprocal basis where both the leader and his subordinates can safeguard their interests (needs and expectations) based on rewards and punishments.

1.8.8 Accreditation

Accreditation is the process by which an authorized and independent body assesses the effectiveness of an institution as a whole or of an academic program with the aim of formally recognizing it if it meets the established minimum criteria or standards.

1.8.9 Motivation

Motivation is the process of encouraging, stimulating, and persuading employees so that they can perform to the best of their abilities to achieve individual, team, and organizational goals.

1.8.10 Intrinsic Motivation

Intrinsic motivation is that form of motivation whereby an individual/employee undertakes an activity purely for personal reasons or satisfaction, rather than the influence of some external forces (such as, reward, and pressure).

1.8.11 Extrinsic Motivation

Extrinsic motivation is that form of motivation whereby an individual/employee undertakes an activity under the influence of some external reward (such as cash, prize, praise, recognition, and award).

1.8.12 Quality Culture

Quality culture refers to a subset of organizational culture that focuses on anticipating and meeting student needs, emphasizing student satisfaction, fostering continuous

improvement, and utilizing cross-functional teams to ensure institutional survival and growth.

1.9 **Organization of the Thesis**

The organization of this thesis is aligned with the guidelines proposed by the university.

This thesis is organized into five chapters, while a brief description of each chapter is provided in the study roadmap and presented in Figure 1.1



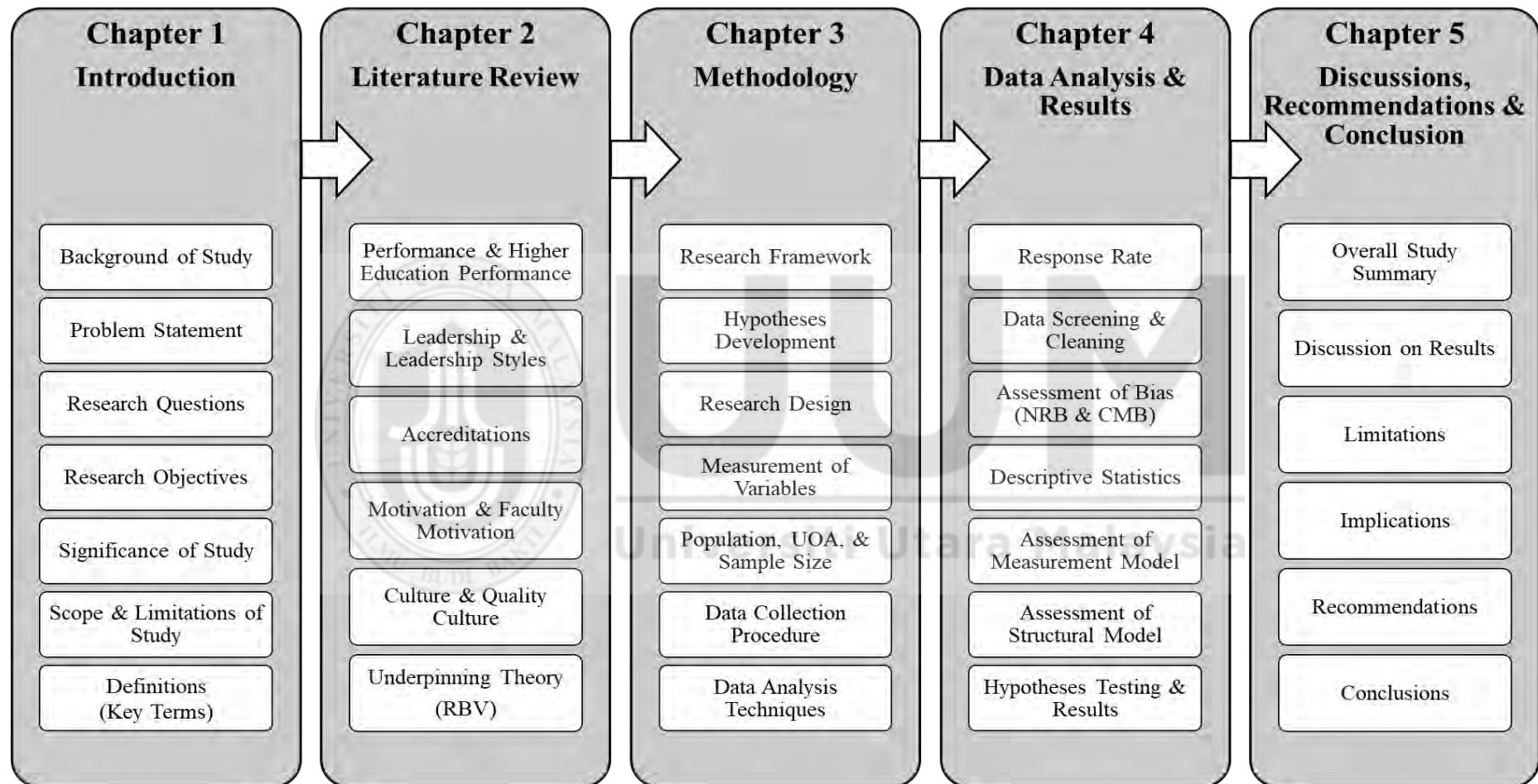


Figure 1.1

Organization of Thesis

1.10 Chapter Summary

This chapter has comprehensively presented the foundational context of the study and articulated the research problem. Drawing upon the preliminary review of the literature within this context, the researcher has discerned relevant gaps, formulated research questions, and set objectives within the realm of higher education in Pakistan. In addition, the chapter delves into the significance of the study, elucidating its theoretical and practical contributions. Furthermore, it describes the scope and limitations of the study. Finally, the key terms of the study were defined, followed by the organization (roadmap) of the thesis for the present study.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

A literature review is a substantive prerequisite for future research and includes identifying strengths and weaknesses such as research gaps, inconsistencies, controversies in the existing studies and provide opportunities for future research in the selected field. According to Boote and Beile (2005), ignoring prior research will undoubtedly put researchers at a disadvantage. Therefore, researchers cannot contribute significantly to research without first understanding the prior literature in their chosen field. The literature review section followed the deductive reasoning approach and discussed all relevant concepts in relation to dependent, independent, and mediating variables, with the aim of identifying potential gaps and finding opportunities to fill these gaps in the literature.

This chapter reviews previous literature in detail and describes researchers' critique on factors such as leadership styles, accreditation, motivation, and quality culture that influence higher education performance. This chapter first explains the concepts of performance and organizational performance, narrowing higher education performance into three performance factors: teaching performance, research performance, and service performance. This is followed by the conceptualization of leadership and its preferred styles, accreditation, and motivation in terms of intrinsic and extrinsic motivation. Furthermore, the chapter discusses the quality culture and its different roles that researchers have investigated in previous studies, as well as its prospects as a mediator in the context of higher education. Finally, the chapter concludes with a

discussion of the underpinning theory and how it can be used in conjunction with the proposed factors to improve higher education performance.

2.2 Higher Education Performance (HEP)

Higher education has a fundamental role in the development of a knowledge economy in a country (Đonlagić & Fazlić, 2015). HE is termed as a tertiary level education that is after secondary education. Harvey (2004) defined HE as “education leading to at least a bachelor's degree or equivalent”. In HE context, researchers have identified three academic roles that HEIs must fulfill, including: (1) teaching; (2) research; and (3) service (Edgar & Geare, 2013). Similarly, Yilmaz and Kesik (2010) have also identified the same functions that are equally important for measuring performance in the context of HE, and these include teaching, research, and service for public. They further elaborated these functions as: (1) instruction (teaching), a primary activity that has social benefits; (2) scientific research, to expand the current knowledge base; and (3) public service, to build public trust serving society that includes cultural, social and sports activities. However, Kivistö et al. (2019) stated mission activities as a third dimension instead of service in the performance definition in the context of HE. Such as “all actions, tasks and processes carried out in HEIs (teaching, research, and third mission activities), as well as outputs and outcomes resulting from these actions” were explained by them. Most of the studies cited above supported the three performance areas of HE performance that have been operationalized for the current study, including teaching, research, and SQ performance in the Pakistani context. These areas are discussed below.

2.2.1 Teaching Performance (TP)

Teaching is one of those professions that involve extensive interaction with others in daily activities. For instance, teachers communicate permanently with children and adolescents without ignoring peers, colleagues, managers, and parents (Suarez & Toro, 2018). In other words, quality teaching involves effective communication or interaction between students and teachers to ensure effective learning. Likewise, ISO defined teaching as “working with learners to assist and support them with learning” (ISO 21001, 2018). In short, teaching involves the provision of all necessary resources and support during classroom interactions to facilitate their learning.

In the previous literature, several terms have been used interchangeably for teaching performance, indicating disagreement among researchers on a single definition of teaching performance. Some researchers used the term teaching effectiveness to measure teaching performance and linked it to the achievement of the educational goal (McKeachie, 1997); satisfaction with their learning experience (Seidel & Shavelson, 2007); and accomplishment of learning outcomes (Galbraith & Merrill, 2012) of students, professional growth of teachers, the transfer and production of knowledge and the development of HEIs (Agesa et al., 2002; Durning & Jenkins, 2005; Galbraith & Merrill, 2012; Hu & Gill, 2000; Print & Hattie, 1997).

While for other researchers, teaching quality and quality teaching are also used to measure teaching performance, but in slightly different words. For example, teaching quality is regarded as an important QA indicator for auditing the performance of HEIs, and is one of the driving forces behind the ranking of universities within and among global HE systems (Greatbatch & Holland, 2016; Musselin, 2018; Williams et al.,

2013). Conversely, high-quality teaching is defined as fostering a deep approach to student learning in HE. In other words, deep approach allows students to focus on higher-level thinking, such as analyzing and combining information and ideas differently through the use of evidence (Postareff et al., 2008).

2.2.1.1 Teaching Performance in Higher Education

Effective teaching plays an indispensable role in achieving course and program objectives, as well as student learning outcomes. For instance, researchers argued that teaching represents one of the most important activities, so it needs continuous monitoring and improvement in HE (Land & Gordon, 2015; Skelton, 2005). But in the absence of a clear definition of teaching, it remains a challenge to fully understand its value (Henard & Leprince-Ringuet, 2008). Several researchers have attempted to examine the effectiveness of teaching performance in educational settings. Some of the studies are critically reviewed below to identify gaps in the existing literature.

Noben et al. (2020) conducted a study to investigate the possibility of finding a cumulative order of teaching skills of selected university teachers and whether it was consistent with teaching development theory. This study adopted a quantitative approach and a convenient sampling technique to select teachers for classroom observations directly by trained observers. The study recruited a sample of 211 university teachers from various faculties via an invitation email, whose lessons were once observed by 24 observers at a Dutch research university. In addition, all observations were made with the observation tool named “International Comparative Analysis of Learning and Teaching (ICALT)”, which included 32 observable educational behavior indicators categorized in 6 teaching areas. A 3-item “student

engagement scale” that was used a criterion variable also included in ICALT. This scale specifically focused on students' psychological and behavioral engagement, and observers rated all items on a 4-point scale. Finally, Rasch's analysis of 203 classroom observations showed a step-by-step sequence of teaching skills consistent with theorized teaching development in the literature from basic to complex. The results revealed that university teachers first recognize students in the teaching and learning process through a teacher-centered approach and then move to a student-centered approach. Their initial goal is to feel comfortable in the first stage (self-focused) and then move on to the development stage (task focus) to improve their teaching. As teachers developed, they moved toward students' focused learning skills, such as teaching-learning strategies.

However, this study has some weaknesses. First, this study relies on a direct observation of teachers, requiring competent and experienced observers with the same specialty, which seems quite difficult for the current researcher. Second, there will always be an element of consistency or biasness in teaching observation method. In other words, there is no guarantee that all observers will evaluate the teaching skills of all university teachers in a similar way. Third, organizing teaching observations can be a very expensive technique and involves many other issues as well, such as bringing all observers together in one place, organizing their transportation and refreshments, and finally expecting them to be present on the said date. Furthermore, this study adopted a convenient sampling technique to collect data, which limits the generalizability of results to other universities. In conclusion, this study has not focused on other areas of performance in the university context, such as research performance and service

performance, so it is necessary to carry out a study that involves these factors so that the findings of the study can also be generalized to other universities in the world.

Chakraborty and Biswas (2019) in their study, tried to explore the factors that can motivate educators to improve their research and learning, and their influence on effectiveness of quality teaching in HEIs. The study results revealed that improving faculties' research and development activities has a significant effect on their teaching quality. The degree of appropriateness and availability of infrastructure have a major impact on increasing the research and development work of teachers. Moreover, a positive working environment will affect teachers' research activities, especially directly affecting the effectiveness of teaching. However, there are few methodological and theoretical gaps in this study. First, this was a descriptive study based on a cross-sectional survey of faculties at various universities in West Bengal. Second, this study used convenience sampling techniques for data collection. Furthermore, this study did not consider the effect of leadership and accreditation on teaching effectiveness. Finally, this study neglected the quality culture as a mediator in the relationship between independent variables and teaching quality (i.e., dependent variables). In conclusion, empirical research is needed by introducing new theoretical links as mentioned above along with the adoption of some appropriate probability sampling techniques in Pakistan's HE context, so that the results can be generalized to other parts of the world.

Carlucci et al. (2018) in their study proposed a framework to analyze quality of student evaluations of teaching (SETs) in HE and discover high-risk issues undermining teaching and courses and that needs to be focused for consistent improvement. This

study has proposed a framework combining two methods generally used in industrial applications, namely the u-control chart and ABC analysis with fuzzy weights. The data set of mechanical engineering courses related to the “students’ evaluation of teaching” for the academic year 2016-2017 obtained from the Italian University. The proposed framework was employed to analyze the data set consisting of 889 questionnaires. The framework was developed to assess the performance of teaching in HE, and for the constant improvement of the quality of teaching and courses in the short, medium, and long term. However, this study has few limitations. First, this study focused solely on teaching performance. Second, this study retrieved the data set for courses of a single discipline (mechanical) from an Italian university. As a result, there may be an element of bias in choosing such data. Furthermore, this study did not consider other important factors that could influence the quality of teaching and/or teaching performance, such as leadership styles, accreditation, motivation, and quality culture. In conclusion, there is a need for a new survey study by collecting empirical data on teaching performance from different universities so that the results can be generalized to other universities in the world.

Muda et al. (2017), conducted a study to establish a psychometric scale to measure the performance of teaching and learning in HEIs. This study is based on Kirkpatrick's four-level assessment model. The researchers used Exploratory Factor Analysis (EFA) to provide evidence for dimensionality measures and Cronbach's Alpha Value of the teaching / learning performance scale. Subsequently, the Confirmatory Factor Analysis (CFA) and the Structural Equation Model (SEM) also provided empirical evidence of uni-dimensionality, convergent, discriminant, and construct validity of the scale. On the other hand, the CFA of the data collected through the survey of 592 student

evaluations also confirmed the data normality, and reliability of the scale. The researchers also argued that the development of a scale based on Kirkpatrick's four levels of assessment to measure performance in teaching and learning is a novel step in increasing the efficacy of teaching. However, this study has few limitations. For example, this study used only the first two levels of Kirkpatrick's four-level assessment model (i.e., reaction and learning) to measure the constructs of teaching and learning performance in the context of HEIs. Moreover, although the sample size seems healthy, the return rate was a bit low, 26%, considering the questionnaires distributed among 2,250 students. Also, field research was only carried out at Malaysian universities using multi-stage sampling techniques. In conclusion, there is a need to verify the instrument (scale) to measure teaching performance in universities other than Malaysia, such as Pakistan, to confirm its applicability, relevance, and generalizability in universities around the world.

Molefe (2010) in his study examined the dimensions to measure performance of lecturers in selected universities in five countries (including South Africa, the United States, the United Kingdom, Australia, and Nigeria). The selection criteria of the universities were based on their academic reputation, or the best university of the country or continent. The study used a quantitative approach and the population consisted of faculty members (e. g., lecturers and senior lecturers). The response rate was calculated at 36%, because of the 500 questionnaires distributed, 170 were found to be valid. The study confirmed the validity of seven dimensions to measure teachers' performance, since the tested value of Cronbach's Alpha reliability coefficient was greater than 0.70. However, this study has few limitations. First, the scope of this study included selected universities in five countries, but the sample size is very limited,

making the results difficult to generalize. Second, the web link (URL) of the questionnaire was shared with respondents via email, but was not sent by regular mail, resulting in a low response rate. Finally, this instrument must be empirically tested to measure teaching performance in universities in developing countries to increase its generalizability.

In summary, the researchers used various terms for teaching performance in the previous literature, including: (1) teaching effectiveness to measure achievement of educational goals, satisfaction with the learning experience, compliance with SLOs, professional growth of teachers, the transfer and production of knowledge, and the development of HEIs; (2) teaching quality, as an important QA indicator for auditing the performance of HEIs; and (3) quality teaching to foster a deep approach of students on higher-level thinking skills in HE. Also, two common approaches have been discussed in the literature regarding teaching performance: teachers' observation and student evaluation of teachers (SET). The former has been criticized for several reasons, including: (1) direct classroom observations require competent, experienced, and trained observers, (2) classroom observations may involve biases, and (3) classroom observations are considered time-consuming, expensive, and difficult to handle. Though the latter has also been criticized but is still considered the most popular compared to the former in the absence of a suitable alternative method.

2.2.1.2 Measuring Teaching Performance in Higher Education

Previous studies have discussed various methods for evaluating teaching performance in HE, including teaching records and portfolios, peer reviews, classroom observations, class sizes, interviews, and student evaluations/ratings; but, researchers have postulated

that students' evaluation of teachings (SETs) is often the main source of information for measuring teaching performance (Baker et al., 2015; Negash, 2010; Palmer & Collins, 2006; Yunker & Yunker, 2003). However, despite the popularity of SETs, there are also few shortcomings associated with this method that can influence the effectiveness of evaluations, including class size, absence of students, and discipline issues, etc. (Bi, 2018). Moreover, it is also argued that when administering questionnaires for the SETs, appropriate measures should be taken, since this activity is strongly influenced by human bias, such as uncertainties due to the subjectivity, vagueness of the appraisals, and the uncertainty of the ratings that affect the evaluation results (Ramli et al., 2010).

Despite the notable increase in publications on QA mechanisms in teaching and learning, Teacher Performance Assessment (TPA) in HE remains a subject that has not been sufficiently researched (Steinhardt et al., 2016; Zapp & Ramirez, 2019). TPA can serve two purposes. For instance, it is strongly believed that the TPA should influence progress on tenure, promotion and salary (Baker et al., 2015; Bianchini, 2013). While, some studies have focused on supporting the processes to evaluate teaching and learning (O'Keefe et al., 2015), or to better teaching practices (Bianchini, 2013; Kilic, 2016). In conclusion, despite some criticism and ongoing debate about the validity of student responses, the fact is that student questionnaires are still considered the most extensively used method to assess teaching performance.

2.2.2 Research Performance (RP)

Research is simply defined as the “process of finding solutions to a problem after a thorough study and analysis of the situational factors” (Sekaran & Bougie, 2016).

Similarly, another perspective of research is the discovery of new knowledge, ideas, and tools to advance the future needs of society and humanity (Javed et al., 2020). Also, the research is aimed to obtain information about observable and hidden phenomena and associations in physical and non-physical domains (Doh et al., 2018).

Regarding research performance, there is no consensus among researchers on its definition. Pellino et al. (1984) have stated the several descriptions of research performance including: (1) the act of submitting a paper for publication in a journal (whether academic or professional); (2) to publish or edit a book or monograph individually or as a team; (3) publishing a book review; or (4) delivering a paper at a professional meeting. Generally, research performance is defined as the performance of enabling the knowledge obtained through research and transferring it to others (Bazeley, 2010). Likewise, research performance is also defined as “output and outcomes as a result of researchers’ activities to gain knowledge and understanding” (Doh et al., 2018). Simply put, research performance is defined as “how well faculty members do in their research”(Daumiller & Dresel, 2023).

2.2.2.1 Research Performance in Higher Education

In HE context, research is considered as a crucial academic activity and all faculty members are expected to participate in it (Hedjazi & Behravan, 2011). Research performance is not only an important indicator of the overall performance of universities, but also provides opportunities for career growth for researchers and faculty members. For instance, research is an important indicator of university performance, so universities that are part of the scientific community must measure their performance consistently to take appropriate actions in the right direction

(Mushtaq et al., 2012). On the other hand, research productivity is also one of the criteria for evaluating the performance of academics in many universities (Khan et al., 2018). Considering the importance of research performance, several researchers have attempted to examine it in the context of HE, some of which are reviewed below for potential gaps.

Aldieri et al. (2020) conducted a study to investigate the effect of research collaborations on research performance based on the analysis of data retrieved from multiple databases of 241 universities for 2015-2016. The results showed a positive impact of the co-authorship process on the research performance of Russian universities. However, this study has few limitations, including: (1) the study used data extracted from secondary sources rather than primary data; (2) the data were only related to Russian universities; and (3) the research performance was evaluated based on a single measure (indicator), namely, the number of citations of publications. In conclusion, this study lacks empirical evidence to measure research performance as the study only examined the effect of collaboration on research performance; and thus ignored the possible effects of other key variables.

Javed et al. (2020) conducted a study on the productivity of research and publishing patterns in public and private sector universities in Islamabad. This study was carried out in four stages: (1) data collection; (2) data cleaning and labeling; (3) features selection; and (4) data analysis. Subsequently, the data were analyzed against research questions through experiments using statistical tools. The study found that Islamabad-based universities produced 34% of entire publications during 2008-2017, despite representing 1% of the Pakistan's population and 11% of universities overall. Among

these publications, the share from private sector universities was only 8%, while the rest of the publications (92%) were from public sector universities. However, this study also has a few weaknesses, including: the study was based on a review of prior literature and therefore lacks empirical evidence. Furthermore, the scope of the study was limited to Islamabad-based universities in Pakistan. In addition, articles used to analyze research performance were retrieved only from the Scopus database. To conclude, a new study based on primary data is needed to provide empirical evidence on the research performance of Pakistani universities.

Abramo et al. (2013) conducted a study to investigate the impact of poor and best performing teachers on Italian universities' overall research performance, as well as the potential relationship between research productivity and the concentration indexes of poor and best professors. While the research performance was assessed using a bibliometric method, that is, articles published in Web of Science journals between 2004 and 2008. The study concluded that poor productivity professors do not cause substantial variation in university rankings (performance), but it is the best-performing faculty members who have a considerable impact on universities research performance. Given the research findings, authors have emphasized that policymakers should allocate funds based on researchers' performance rather than their university rankings to make them more productive, while universities should pay special consideration to recruitment. However, as this study is based on secondary data obtained through a bibliometric approach (secondary sources), its results cannot be generalized unless empirically verified.

In a relatively new study, researchers conducted a systematic review of the literature to examine the relationship between the publication performance of academics and the university work environment (organizational and psychosocial). The results found a strong influence of the work environment (organizational and psychosocial) on the research productivity of individual academics and their departments (Aboagye et al., 2021). However, this study has some limitations: first, the study is based on a literature review, and second, the publication performance has been investigated in relation to the work environment. Therefore, more scholarly efforts are needed to examine the performance of research in the university setting.

Based on the review of the studies and their findings regarding the research performance of the universities, the researchers relied extensively on secondary data to investigate the research performance at the institutional level. However, there is no evidence from previous studies in which researchers have attempted to examine research performance (organization-wide) based on primary data in the context of HE. Therefore, there is an empirical gap in the existing literature, which can be filled by conducting a survey-based study.

2.2.2.2 Measuring Research Performance in Higher Education

There are different perspectives among researchers to measure research performance in HEIs. For some researchers, the effectiveness of research can be measured simply by counting all publications in reputable journals; meanwhile, they also proposed 10 criteria that can be used to evaluate research performance, including: (1) the journals' quality index; (2) peer review and evaluations; (3) citation indexes; (4) awards and prizes; (5) papers presented in meetings; (6) dissertations; (7) publications (books and

articles); (8) invitations to present papers; (9) winning research funds or grants; and (10) holding positions in professional associations (Jauch & Glueck, 1975).

According to Creswell (1985) science and social science faculties use three types of measures to evaluate data-based studies, including: number of publications, number of citations, and peer ratings. Bazeley (2010) pointed to some typical measures regarding research performance, including: outputs of publication, impact of citations, other types of quality assessment such as expert panel in the UK and, in some systems, indicators of researchers' reputation. In addition, some authors have identified other criteria including: number of articles published in peer-reviewed scholarly or professional journals, monographs (books) published, number of books edited, and book chapters published (Hesli & Lee, 2011).

In literature, researchers have mainly conceptualized research performance from two perspectives: research output and research outcome. The first perspective considered research performance as the number of publications (i.e. the output of research) published/authored by academic staff or other researchers at their respective universities (Agasisti & Bertolotti, 2019; Hien, 2010). The second perspective perceived research performance as the effectiveness of the research process and the resulting impact as an outcome (Alomary, 2020). However, the researchers found that the majority (65%) of overall university performance assessments come from research output (Degl'Innocenti et al., 2019).

Also, recently, researchers conducted a study at research universities in Indonesia to identify research parameters and then classify them into five categories based on system

theory. The input category included 10 parameters, the process category included 22 parameters, the output category included 8 parameters, the productivity category included 4 parameters, and the outcome category consisted of 10 parameters. The authors have recommended using these parameters to measure the research performance of universities (Hermanu et al., 2023).

Given the above discussion, the present study has examined the research performance of universities from the perspective of research outcomes. In a nutshell, the effectiveness of research performance has been examined in terms of the ability of universities to obtain research grants, complete research according to plan, produce research to meet desired objectives, engage students in research, and produce impactful research.

2.2.3 Service Performance (SP)

The role of services in organizations can never be underestimated, whether they exist in manufacturing, construction, textiles, energy, healthcare, hospitality, or education, they all depend on services in one way or another. However, despite its key role in cross-sectoral organizations, there is no consensus on defining services. Edvardsson and Olsson (1996) defined the concept of service as the “detailed description of what is to be done for the customer (what needs and wishes are to be satisfied) and how this is to be achieved”. In another study, researchers have defined services as kind of facts, processes, and performances (Zeithaml et al., 2018). While, in a relatively new study, researchers have postulated that services are intangible in nature, delivered to customers to meet their needs, but cannot be linked to other provisions (Husain et al., 2022).

In educational context, researchers have postulated that educational services are intangible, heterogeneous, perishable and inseparable, because they result from teaching interactions between faculty and students and are consumed simultaneously, nor can they be separated since faculty and students participate in the process at the same time (Shank et al., 1995; Shostack, 1977). Apart from this, educational services also play a supportive role in the implementation of educational policies to achieve university goals, thereby enhancing the effectiveness of the entire education system (Al-Dulaimi, 2016). Therefore, some researchers considered it a third-mission performance, which means “to capture the contribution of universities to society, including the benefits outside the academic environment that arise from HE” (Agasisti & Bertolotti, 2019; Rybnicek et al., 2019). Considering the unique characteristics of educational services, ISO has recently defined educational service in a very comprehensive way, as a "process that supports acquisition and development of learners' competence through teaching, learning or research" (ISO 21001, 2018). Besides, educational services are activities of the educational system that provide something that the community needs (Dinh et al., 2021).

2.2.3.1 Service Performance in Higher Education

As with services, there is a lack of consensus among researchers on service performance, so the terms service performance and service quality are used interchangeably. Consequently, there is still no common definition or model for service quality, so the debate continues and many concepts are still being developed (Schneider & White, 2004). Due to the lack of consensus on the definition of service quality/performance, researchers have discussed it from different perspectives. Service quality is the result of an evaluation process and can be defined as the degree to which

services provided to customers meet their expectations (La Rotta et al., 2020). In the educational context, service quality refers to the unique learning experiences that universities provide students to gain a competitive advantage (Latif et al., 2019). In addition, there are two other perspectives on service performance in the context of higher education, including service performance from the perspective of the service role of faculty and service performance from the perspective of stakeholders (internal and external customers).

A first perspective on the performance of the service refers to the third role or mission that faculty members carry out in their respective universities (Agasisti & Bertoletti, 2019; Rybnicek et al., 2019). Faculty service roles include creating and maintaining high-quality programs, publishing in scholarly journals, organizing nationwide conferences in relevant disciplines, and ensuring that their societies function well (Brazeau, 2003). Researchers have classified the service work of the faculty into two broad categories, namely internal services and external services (Neumann & Terosky, 2007; Ward, 2003). Internal services are provided within institutions (campus) to support institutional businesses (Neumann & Terosky, 2007; Ward, 2003). These include: (1) academic oversight, which supports the campus's academic mission; (2) institutional governance, shared decision-making responsibilities such as budget oversight, strategic planning, assessment, recruiting, mission and goal oversight; and (3) institutional support for the overall maintenance of campus life (Finsen, 2002). While, external service work is associated with the professional or disciplinary fields of the faculty and the maintenance of those fields as a means of perpetuating disciplinary societies and their work as an external service type (Neumann & Terosky, 2007; Ward, 2003). The external service brings various types, including service-

learning, extension, consulting, and resource sharing, coupled with faculty expertise and institutional spaces for public use. However, the committee work as part of the overall maintenance of campus life can be either internal (institutional) or external, such as academic discipline or professional association (Valdes, 2020).

However, according to Throm (2018), service is neglected area in terms of faculty responsibilities in HEIs because universities do not provide any details in the job advertisement of faculty service responsibilities, except teaching and research; also, students have not been socialized by their respective universities regarding the service roles of faculty, which are quite tedious. She further revealed that faculty members are disappointed that despite spending a reasonable time in different service roles at their respective universities, service does not carry enough weight in tenure and promotion evaluations, compared to research and teaching (Throm, 2018). This is also supported by other researchers who have argued that the emphasis of existing studies is on the traditional roles of universities, rather than discussing the third mission also called the service role (Compagnucci & Spigarelli, 2020).

The second perspective on service performance is the stakeholder perspective. Generally, services are provided to two types of stakeholders, namely internal (teaching and non-teaching staff) and external (students) (Sallis, 2002). Likewise, internal service quality (ISQ) is described as the quality of service provided to internal customers or employees of one unit to employees of another unit within the same organization (Dauda et al., 2013; Latif et al., 2016; Skarpeta et al., 2020; Xie, 2005; Zeithaml et al., 2018). Conversely, external service quality (ESQ) is referred to as the quality of the

services that the organization provides to external customers (Almohaimmeed, 2019; Dauda et al., 2013; Latif et al., 2016).

In the previous literature, most researchers have investigated service performance from the external customer perspective (Campos et al., 2018; Hasan & Hosen, 2020; Sohail & Hasan, 2021; Yilmaz & Temizkan, 2022). By contrast, the literature dealing with internal services is relatively limited, and even fewer discuss the dual aspects of services. Therefore, researchers have emphasized that meeting the needs of internal customers is a prerequisite for providing high-quality services to end customers (Chiang & Wu, 2014). Given the importance of internal services, it can be argued that the quality of external services largely depends on the satisfaction of internal customers. The higher the employee satisfaction, the higher the quality of services provided to external customers (Chen & Kao, 2012; Jun & Cai, 2010; Nagel & Cilliers, 1990). In a recent study, researchers have argued that internal service quality has the potential to influence service performance (Xuan & Yunchen, 2015). However, despite the importance of this dual perspective of service quality, only a few researchers have examined both aspects of services (Chow-Chua & Komaran, 2002; Dedek, 2003; Svensson, 2004, 2006; Tam & Wong, 2001), hence there is a gap in the extant literature. In addition, studies that have examined service performance in different roles in the context of higher education are summarized in Table 2.1.

Table 2.1*Gap Matrix: Service Quality in Different Roles*

Author (s)/ Year	Title	Nature of Study	Variables	Gap/ Comments
Hasan and Hosen (2020)	The quality of university service: Its impact on students' satisfaction and loyalty in Bangladesh State University	Descriptive/ Quantitative	IV: University Service Mediators: University Rep. & Ext. Image DV: Student Satisfaction & Student Loyalty	-Site: 2xPub. HEIs of BD -Resp: UG & Grad Students -Sample Size 390 Students -Analysis SPSS (V-23) -Missed Private Universities -SQ as DV missing. -QC is missing as Mediator
Moslehpour et al. (2020)	The mediating role of international student satisfaction in the influence of higher education service quality on institutional reputation in Taiwan	Quantitate	IV: SQ Mediator: Students Satisfaction DV: Institutional Reputation	-Site: Taiwan -Pop: 33 Pub. & Pvt. HEIs -Sample Size = 197 -Resp: Int. Students -Scale: 02 HEDPERF Dimensions (Acad. & Non-Acad. aspects) -SQ & QC is missing as DV & M
Hama et al. (2020)	The Impact of Service Quality on Student and Academic Staff Satisfaction within Higher Education Institutions: A Case Study of Sulaimani City in Northern Iraq	Quantitative/ Descriptive/ Survey Based	IV: SQ DV: Students Satisfaction	-Site: Sulaimani City in Northern Iraq -Pop: 8x Pub & Pvt. Colleges/HEIs -Resp: Students & Academic staff -Sample size: Nil -Sampling Technique: Nil -SQ as DV missing. -QC is missing as Mediator
Bakrie et al. (2019)	The Influence of Service Quality, Institutional Reputation, Students' Satisfaction on Students' Loyalty in HEIs	Quantitative/ Survey Based	IV: SQ & Inst. Rep Mediator: Student Satisfaction DV: Student Loyalty	-Site: 1xPGRI University, Palembang, Indonesia. -Pop: All Students -Resp: UG Last Sem. Students -Sample size: 185 Students -SQ as DV missing. -QC is missing as Mediator
Khalid et al. (2019)	Assessing the effect of higher education service quality on job satisfaction among lecturers in Premier Polytechnics using HEDPERF model	Cross-sectional Study	IV: SQ DV: Job Satisfaction	-Site: 3x Malaysian Polytechnics -Pop: Lecturers -Sampling: Purposive -Data Collection: Self-administered questionnaires -Sample size: 187 lecturers -SQ as DV missing. QC is missing as Mediator

Table 2.1 (Continued)

Author (s)/ Year	Title	Nature of Study	Variables	Gap/ Comments
Mwiya et al. (2019)	Are there study mode differences in perceptions of university education service quality? Evidence from Zambia	Quantitative/Survey approach	IV: SQ DV: Student Satisfaction	- Site: Zambia - Popo: Students of 1x Pub. HEI - Sampling: Prop. Stratified - Sample size: 824 UG final year students - Pvt. Universities missing - Analysis: Correlation & ANOVA - SQ as DV missing. - QC is missing as Mediator
Chandra et al. (2018)	The Effect of Service Quality on Student Satisfaction and Student Loyalty: An Empirical Study	Explanatory research (Survey based)	IV: SQ DVs: Student Satisfaction and Student Loyalty	- Site: Indonesia - Pop: 13 Pub. & Pvt. HEIs & Colleges of Riau Province - Sample size: 1000 Students - Sampling: Not mentioned. - Analysis: SEM, SPSS-21 & AMOS21 - SQ as DV missing. - QC as Mediator missing
Handayanto (2018)	Mediating Role of Satisfaction on Relationship between Service Quality and Word of Mouth in Islamic Private Universities in Indonesia	Survey Research	IV: SQ Mediator: Satisfaction DV: Word of mouth	- Site: Indonesia - Pop: 2x Pvt. HEIs - Resp: UG Students - Sample size: Not Mentioned - Sampling: Purposive - Analysis: PLS-SEM - SQ as DV missing. - QC is missing as Mediator
Banahene et al. (2018)	Effect Of Service Quality on Students' Intention to Provide Funding Support to Private Universities in Ghana: The Mediating Role of Students' Satisfaction	Quantitative/Explanatory	IV: SQ Mediator: Student Satisfaction DV: Students' Intention to Provide Funding Support	- Site: Ghana - Pop: 6x Pvt. HEIs in Ashanti Region - Sampling: Convenience/ purposive - Sample: Contradiction (412 or 421) - Analysis: Stata 13, SPSS-20 & SEM - SQ as DV missing. - QC is missing as Mediator
Osarenkhoe et al. (2017)	Service Quality as a Mediator of Customer Complaint Behaviour and Customer Loyalty	Quantitative/cross-sectional research design	Mediator: SQ IV: Customer complaint behavior DV: Customer loyalty	- Site: Uganda - Pop: Students, Academic/Admin/ Support Staff Makerere University, Kampala - Sampling: Stratified Random - Sample: 400 - Analysis SPSS-19 - SQ as DV missing. - QC is missing as Mediator

Table 2.1 (Continued)

Author (s)/ Year	Title	Nature of Study	Variables	Gap/ Comments
Sarhan and Shishany (2020)	The effect of culture on accommodation service quality perception and expectations	Quantitative/ IV: Culture Survey Based Approach	DV: SQ	-Site: Gold Coast, Australia -Context: Hospitality (Hotels & Apartments) -Pop: Only Arab tourists. -Sampling: Not Mentioned -Sample Size: 305 -Limited to only Arab tourists -HE sector is missing. -Culture used as an IV. -QC missing as a mediator
Chang et al. (2019)	The effects of leadership style on service quality: enrichment or depletion of innovation behaviour and job standardisation	Questionnaire /Survey Study	IVs: TFL & TNL Mediators: Innovation Behavior & Job Standardization DV: SQ	-Site: Taiwan -Pop: Leaders & Employees of 52x Int. Tourist & 52x Std. Hotels -Sample Size: 321 -Sampling: Stratified/ Paired -QC missing as a mediator. -Context: Hospitality -HE sector is missing

Source: Developed by Researcher

In contrast, only a few studies have examined the role of service quality as a dependent variable. Al-Gasawneh et al. (2021) conducted a study to investigate the effects of four dimensions of customer relationship management (CRM) on service quality. This study used a survey-based quantitative approach to collect data from General Managers of hotels in Jordan. The results showed that CRM dimensions, including key customer focus, knowledge management, and technology positively impacted service quality, while CRM organization negatively impacted. However, this study has some gaps. First, this research is limited to the hotel industry. Second, the respondents were only general managers (GMs) of Jordan hotels (1-5 stars), meaning the survey ignored customer perception. Third, although the study used a stratified sampling technique, it lacked clarity about sample size. For example, the required sample size was listed as 74, but the actual sample size was written as 212 in the methodology section, while 162

in the results/discussion section, out of 212 distributed questionnaires. Besides, this study only examined the effect of CRM dimensions on service quality. This study also guided future researchers to investigate the mediating effect of any prospective variable in future studies along with quality of service as DV. In conclusion, because of certain limitations, there is a need to carry out a new study examining the effects of the leadership styles, accreditation, and the motivation on the higher education performance, with the quality culture as a mediator; based on the perceptions of administrative managers, including VCs, Deans, Directors, and HODs from both internal perspectives (faculty and support staff) and external perspectives (students, society, etc.) in the context of HE in Pakistan.

Su et al. (2019) conducted a study to investigate the multi-level impacts of transformational leadership on employee service quality; and the multi-level mechanisms that mediate this relationship. The researchers collected data from 223 branches (restaurant chains) of a large catering company in south part of China; and the respondents were 208 managers and 1,431 employees. The study findings revealed that the strong transformational leadership substantially improves the quality of employee service at different levels (individual and branch). A partial mediation of affective commitment and psychological empowerment was found in relation to transformational leadership (at the individual level) and the service quality of employees. Whereas the service climate (at the branch level) completely mediated the relationship between transformational leadership (at the industry level) and the service quality of employees. However, this study has few weaknesses. First, this study is only confined to one segment of hospitality industry (chain restaurants) in southern China. Second, the study ignored transactional leadership in relation to service quality. Third, this study lacks the

role of quality culture as a mediator. In addition, since the scope of this study is limited to the hospitality sector, the results of the study cannot be generalized in the context of HE.

Wijaya et al. (2019) conducted a study to examine the influence of leadership style on service quality in HE context. The results found a considerable and positive effect of leadership style on service quality. However, there are some weaknesses in this study. First, the study population was the social science support staff at an HEI. Second, the sample size was also limited to 80 support staff (civil and non-civil employees), but the number of universities is not mentioned. Third, this study did not attempt to investigate some key variables such as accreditation, motivation, and quality culture. Finally, this study only incorporated the perception of support staff and ignored other key stakeholders, such as administrative managers, for evaluating the effect of leadership styles on service performance. Given the weaknesses of this study, there is a need for a new study involving more universities and a larger sample size to generalize the results worldwide in the HE sectors.

In short, many of the previous studies have examined service quality as a predictive variable, especially in the context of higher education, while only a few studies attempted to examine service performance as a criterion variable, but mainly in the hotel industry. There is a need to investigate service performance in the context of higher education in Pakistan. In addition, previous studies primarily examined service performance based on the perception of students as external (primary) customers, and thus ignored the perception of internal customers, such as administrative managers, faculty, and/or other support staff in the context of higher education. Thus, there is a

gap in the previous literature, as there is little evidence that researchers examined service performance simultaneously from the internal perspective (faculty members, support staff) and the external perspective (students). This study has investigated service performance from both perspectives based on the perceptions of administrative managers, as both internal and external customers often interact with administrative managers on various academic and non-academic matters. Therefore, they are in a better position to assess service performance from the perspective of both staff and students.

2.2.3.2 Measuring Service Performance in Higher Education

In previous literature, several instruments have been developed to measure service performance in organizations. Some of these are generic in nature, while others are designed to meet the needs of specific service industries. Three instruments that have gained much popularity among researchers for measuring service performance include (1) SERVQUAL (Parasuraman et al., 1988); (2) SERVPERF (Cronin & Taylor, 1992); and (3) HEdPERF (Abdullah, 2005). Although these instruments have revolutionized the use of quantitative criteria to measure service performance, each of these instruments has some shortcomings, which are critically examined in the context of HE below.

The instrument "SERVQUAL" is a combination of "SERV" and "QUAL", both of which are taken from the first four words of the two terms "SERVICE" and "QUALITY". The SERVQUAL instrument was developed by Parasuraman et al. (1988) in the USA, who believed that perceived quality of the service can be measured by finding difference among service performance (P) and the customer expectations

(E). In other words, Q (Service Quality) = P (Performance) – E (Expectations). These differences are known as gaps, that is, if the resultant value is positive, it shows that delivery of service is higher than the expectation of the customers. But, when the value is negative, it implies that the customer's expectations were higher than the service provided. The values of both performance (P) and expectations (E) are identified by applying the SERVQUAL questionnaire, which is comprised of 22 items under five quality dimensions. SERVQUAL dimensions include: (1) reliability, which is the degree of correctness with which service is delivered as promised; (2) responsiveness, that is, the readiness to assist customers with swift service; (3) assurance, that is, the knowledge and courtesy of employees through which they instill confidence and trust; (4) empathy, means personalized attention and commitment to each client; and (5) tangible, including the appearance of physical assets, amenities, and staffs, as well as their communications (Parasuraman et al., 1988). Each item in the questionnaire measures two aspects: first, customer expectations and second, customer perceptions. Moreover, each item is rated on a scale from 1 to 7, where 1 denoted as "strongly disagree" and 7 as "strongly agree".

Despite the wider acceptability and application of SERVQUAL across all industries (Ladhari, 2009; Trivellas & Dargenidou, 2009), researchers have disagreement about the preferred instrument for measuring service quality. For instance, some argued that SERVQUAL is the most practical model that has many empirical applications for assessing the service quality in HE (Anderson, 1995; Cuthbert, 1996; Hill, 1995; Ho & Wearn, 1995; Kwan & Ng, 1999; Sahney et al., 2004; Sohail & Shaikh, 2004; Tan & Kek, 2004; Wright & O'Neill, 2002). While others pointed out that the SERVQUAL instrument is not complete and that some dimensions have yet to be added to measure

the quality of service in a more accurate way (Ladhari, 2009). Furthermore, researchers also criticized SERVQUAL for its generic nature (Clewes, 2003; Trivellas & Dargenidou, 2009); validity issues among various cultures (Ladhari, 2008); dimensionality and universality issues (Buttle, 1996); focus on evaluating functional quality (Kang & James, 2004); and due to items of expectation (Babakus & Boller, 1992).

The SERVPERF instrument also gained a lot of popularity, it was developed by Cronin and Taylor (1992) in the United States of America. SERVPERF is a combination of "SERV" and "PERF" derived from the two terms "SERVICE" and "PERFORMANCE". The authors believed that perceived SQ should be measured based solely on perception of performance; that is, Q (quality of service) = P (performance). Although the SERVPERF instrument is derived from SERVQUAL, it remains a distinguished instrument because it measures only the single aspect that comprises 22 items related to the delivery of a service provided (performance). On the other hand, SERVQUAL measures both dimensions, such as customer expectations and customer perception. The authors developed the SERVPERF instrument after analyzing 660 questionnaires collected from two companies in each sector. The instrument items ranged from 1 to 7, with 1 marked as "strongly disagree" and 7 as "strongly agree". Respondents (customers) were asked to rate each item in the delivery of services, which equals the quality they experience, without having to identify their expectations. This reduces the element of fatigue in respondents, as they now only answer each item once, compared to SERVQUAL, where researchers must answer 22 items twice, first as their expectation and then as their perception regarding quality of service. The authors of the SERVPERF instrument preferred it to the SERVQUAL instrument for two reasons:

first, it only involves customer perception; and second, it also provides a more accurate service quality index compared to SERVQUAL (Cronin & Taylor, 1992).

However, the SERVPERF instrument has also been criticized by researchers like its predecessor SERVQUAL. For instance, the main limitation of SERVPERF is its limited scope to measure SQ on the basis of customer perceptions (Kashif et al., 2014). Some researchers have compared both instruments (SERVQUAL and SERVPERF) in terms of their effectiveness in measuring service quality; and revealed that both instruments have only emphasized dimensional aspects, rather in their predictive validity (Carrillat et al., 2007; Cui et al., 2003; Hudson et al., 2004). In addition, researchers have disagreements regarding instrument superiority. Some have argued that SERVPERF is much better substitute than SERVQUAL instrument (Babakus & Boller, 1992; Brady et al., 2002; Brown et al., 1993; Jain & Gupta, 2004; Zhou, 2004). While, for others, SERVQUAL stands out in terms of measuring service quality (Chebat et al., 1995; Furrer et al., 2000). However, few researchers suggested that both instruments are equally acceptable and provide valid prediction of overall service quality (Carrillat et al., 2007).

Another instrument was "HEdPERF" which has attracted a lot of attention and was developed by Abdullah (2005) in Malaysia. The HEdPERF (Higher Education PERformance) instrument was based on the SERVPERF to assess service quality in the context of higher education. The purpose of creating a HEdPERF instrument was twofold: first, the author considered that the previous instruments (SERVQUAL and SERVPERF) were labeled as generic and were not sufficient to adapt to the dynamics of HE; second, there was an urgent need for a specific instrument to measure service

quality in HE due to rapid growth in the global education market. HEdPERF instrument also deems service quality equal to performance; in other words, Q (service quality) = P (performance). Unlike SERVPERF, there are 41 items on the HEdPERF instrument, of which only 13 were adapted from the SERVPERF instrument. All items were grouped into six dimensions, including: (1) non-academic aspects, to assess the study needs of students and related to tasks executed by administrative staff; (2) academic aspects, items related to responsibilities of academic staff; (3) reputation, to emphasize the professional image of HEIs; (4) access, items pertaining to easy accessibility, availability, ease of contact, and convenience; (5) program issues, including items highlighting the importance of offering a wide variety of renowned programs with flexible curricula and structures; and finally (6) understanding, which involves items related to the student's needs, such as counseling and health (Abdullah, 2006a, 2006b, 2006c). Moreover, the author validated the instrument by analyzing the results obtained by applying the HEdPERF questionnaire. The data were collected from 409 students of six universities in Malaysia. Based on the data collected, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed to empirically test the instrument's unidimensionality, reliability, and validity. But it should be noted that in later studies the author modified the HEdPERF instrument by reducing its dimensions from six to five, including, non-academic aspects, academic aspects, reputation, access, and program issues, maintaining the 41 original items.

However, few researchers have also criticized the HEdPERF instrument for some of its limitations. First, the content and face validity of various items in the HEdPERF instrument contradict the principles of a good questionnaire (Sultan & Wong, 2010). Second, the first run of factor analysis has several cross loads and low loads (even less

than 0.3). Third, the focus of the HEdPERF instrument is mainly on the administrative functions of universities. Furthermore, the researchers criticized Abdullah (2006a, 2006b) for publishing two similar studies with different titles in two different academic journals (Sultan & Wong, 2010). Finally, the researchers argued that research on SQ in context of HE requires more attention (Sultan & Wong, 2010). Despite the criticism, researchers still believe that HEdPERF instrument captures more variance than SERVPERF instrument (Sultan & Wong, 2010). While some argued that HEdPERF is an effective instrument to measure SQ in HE. Icli and Anil (2014) have indicated that "HEdPERF" is the most established instrument in the literature to measure SQ in HE.

Given the involvement of multiple stakeholders, ignoring dual perspectives (internal and external customers), and paying little attention to measuring faculty's service role indicate theoretical and empirical gaps in the existing literature. In this study, the current researcher has mainly adapted items from the "Employee Service Quality Scale" (Hui et al., 2003). The researchers developed this instrument specifically for their study to investigate the moderating effect of psychological collectivism on the relationship between supervisor-subordinate personality similarity and employee service quality. The unique feature of this instrument is that the researchers focused equally on two aspects, including "Service to Internal Customers" and "Service to External Customers". The other reasons for adapting this instrument include that the instrument was designed to examine supervisors' perceptions of employees, and that service quality was being assessed as a dependent variable. Likewise, respondents in the current study are also supervisors (administrative managers) in the context of higher education, while service performance is part of higher education performance (i.e., DV). In addition, some items were also included in the service performance instrument to incorporate

faculty service roles adapted from previous studies conducted in higher education settings (Asif et al., 2013; Asif & Searcy, 2014; Badri & Abdulla, 2004; Nedwek & Neal, 1994).

2.3 Leadership Styles (LS)

Leadership is one of the widely investigated topics among researchers. The scholarly research related to leadership topics has intensified enormously during the last 20 years. Conversely, research on leadership in the context of HE is still limited in developing countries like Pakistan. A literature search on "Google Scholar" found that there are approximately 4.8 million resources related to leadership so far (Google Scholar, 2021). The word leadership has a very long history and is derived from the words "lead", "leader" and "leadership". The roots of the word "lead" are in "loedan" (or "lithan"), which means "to travel", and which traces back to pre-Anglo-Saxon culture (Grace, 2003). However, despite extensive research, there is no universal definition of leadership (Goethals et al., 2004; Vroom & Jago, 2007).

Researchers have defined leadership differently, some viewed leadership in terms of influencing and motivating other people. For instance, Hallo et al. (2020) argued that leadership is the ability of leaders to influence and motivate people to make them productive in any organization. Moreover, House et al. (2004) defined leadership as the "ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organizations of which they are members". Similarly, Dewi and Wibowo (2020) have defined leadership in terms of "individual characteristics, ways of influencing others, habits, interactions, positions in the organization and perceptions about the legitimate influence". Additionally, leadership

is a process of persuasion (Gardner, 1990); or motivation by which leader makes others aware of their responsibilities for achieving a shared, value-added vision, with zeal and honesty (Germano, 2010).

While some researchers viewed leadership in terms of organizational success and failure and achievement of organizational goals. For example, Bass (1990a) in their "Handbook of Leadership" defined leadership as a key driver that motivates and coordinates the achievement of an organization's goals. Likewise, according to Omolayo (2007) leadership is a socialization process in which the leader ensures the voluntary involvement of juniors in achieving organizational goals. Lastly, Al Khajeh (2018) argued that leadership is one of the key elements of organizational success and failure.

Leadership styles play a dynamic role in motivating people to pursue organizational goals. For instance, Al Khajeh (2018) argued that leadership style is the way of guiding and motivating subordinates to achieve organizational goals. Also, according to Dewi and Wibowo (2020) leadership is the backbone of any organizational operation and without effective leadership the achievement of organizational objectives is difficult. Few researchers perceived leadership style to improve organizational performance or success. For example, according to Al-Khaled and Fenn (2020), leadership style is directly linked to the success of a company, because the way the leader handles employees will eventually affect organizational performance. Likewise, Al Khajeh (2018) hold the same view that leadership style and organizational efficiency are closely related.

However, leaders still have many reasons to choose various leadership styles. For instance, Weller and Stevens (2015) argued that leadership style is a method and style of giving direction, executing plans, and persuading people. While, Al Khajeh (2018) argued that effective leadership style is known to be powerful source to obtain a competitive advantage and manage growth. On the other hand, Veliu et al. (2017) argued that leadership style is one of the organizational factors that has a significant impact on increasing or decreasing personal interest and commitment in the organization.

2.3.1 Types of Leadership Styles

Previous studies indicated that until now many leadership styles have been identified. However, it is the leader's prerogative to choose the right leadership style, considering the circumstances of the organization. For instance, Weller and Stevens (2015) argued that since there are many leadership styles available, the adoption and development of appropriate style is one of the driving forces for organizational success. According to the Al-Khaled and Fenn (2020) the selection of the right leadership style is up to the managers of the organizations. Contemporary literature on leadership focuses on two fundamental dimensions of leadership, namely: transformational and transactional leadership.

2.3.1.1 Transformational Leadership Style (TFL)

Transformational leadership is among the most studied topics in the field of leadership (Díaz-Saenz, 2011). With regard to the origins and development of transformational leadership, Díaz-Sáenz (2011) has mentioned that it was James Downton who coined the term "transformational leadership" in a 1973 article on rebel leadership, but, it was

noticed when James Macgregor Burns wrote his classic book titled *Leadership*. However, after some adaptations of Bass and Avaluio, this style gained popularity in the subject of organizational psychology and management (Jung & Sosik, 2002).

Researchers defined transformational leadership in many ways. For instance, Alqatawenh (2018) defined transformational leadership as the key leadership styles that influence outcomes at both organizational and personal levels to attain competitive advantage. transformational leadership contributes to the success of the organizations in several ways. First, transformational leaders are recognized for their flexible style. For example, Odumeru and Ifeanyi (2013), argued that transformational leaders are flexible enough to implement organizational policies, processes, and rules because they understand how this might affect employees. Second, transformational leadership promotes a culture of inspiration and motivation. Such as, Riaz and Haider (2010) opined that transformational leaders lead their subordinates by cultivating a culture of inspiration and motivation, while focusing on a particular vision in their minds. Similarly, Kiyak et al. (2011) argued that transformational leadership is termed as the process of interacting with others, so leaders and followers build an advanced level of motivation and decency together. Likewise, Özer and Tinaztepe (2014) argued that a transformational leadership tends to increase the motivation, inspiration, development and expectations of followers. Moreover, compared with traditional leaders, transformational leaders are known for their ability to influence their followers by encouraging them to propose ideas and solutions (Alqatawenh, 2018; Breevaart et al., 2014). Thus, transformational leaders foster a collaborative, cohesive and harmonious spirit among their subordinates to develop a willingness to support the organization's goals (Khan et al., 2014).

Transformational leadership was conceptualized by involving the four sub-dimensions called the 4Is, including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985). Idealized influence is the first dimension that describes a leader's ability to earn the respect and admiration of his followers to imitate the leader (Barbuto & Burbach, 2006). Leaders with this kind of ability generally have very high standards of moral and ethical behavior and are therefore considered role models or “walking the talk” (Northouse, 2016). Then there is the second dimension, called inspirational motivation, which empowers leaders to convey high expectations to their followers and inspire them to achieve organization's shared vision (Yukl, 2013). Intellectual stimulation is the third dimension and leaders who are intellectually stimulated encourage, educate and develop their employees to make them more aware, innovative and creative (Krishnan, 1998). In addition, this skill allows the leader to stimulate creativity and innovation in followers, challenge existing norms and try new ways of solving problems within the organization (Dionne et al., 2004; Northouse, 2016). Likewise, individualized consideration is the fourth dimension among 4Is, and this shows that a leader cares about the interests and developmental needs of his followers. According to Bass and Riggio (2006) this dimension indicates that leaders should provide a supportive atmosphere and listen to the personal needs of followers.

2.3.1.2 Transactional Leadership Style (TNL)

According to Burns (1978), transactional leadership is related to most leadership models, which mainly focus on communication among leaders and their followers. Northouse (2016) explained that politicians demonstrate a transactional leadership

when they promise “no new tax” for winning election, just like a manager who offers promotions to employees for exceeding their targets. Transactional leadership is a reciprocal relationship, where both the leader and the follower can satisfy their needs and expectations, which is valuable to both parties (Burns, 1978). According to Bushra et al. (2011) transactional leadership is based on the rational and materialistic relationship between the leader and the subordinates. That's why a transactional leader rewards or punishes his followers based on their work (Odumeru & Ifeanyi, 2013).

Burns (1978) presented two dimensions of transactional leadership, including contingent reward and management-by-exception (which is further divided into two active and a passive approaches). Bass (1985) defined management-by-exception as a corrective transaction between a leader and their followers. This can be active (i.e., the leader actively monitors followers for deviations from the standards in the form of errors and takes remedial action if necessary) and passive (i.e., leaders are passive in taking corrective action and when they take it is usually too late). While contingent rewards are constructive transactions between leaders and their followers. In the sense that leaders set expectations for followers to meet desired level of performance and use incentives to produce positive performance (Bass, 1985).

2.3.1.3 Transformational vs. Transactional Leadership

The existing literature on leadership styles, notably transformational and transactional leadership, suffers from fragmentation, leading to a lack of conclusive evidence to determine the suitability and effectiveness of each style. Transformational leadership is particularly favored when the goal is to stimulate innovative thinking and implement new ideas within an organization. Transformational leaders rely on their charisma to

inspire commitment and prioritize support, motivation, and encouragement of employees (Martins, 2023). For instance, in a study involving 98 employees from 25 small and medium-sized firms in Manipur, India, researchers gathered data through surveys and interviews to assess the effectiveness of transactional and transformational leadership during the COVID-19 pandemic. The results revealed a positive correlation between both leadership styles and leaders' effectiveness, with transformational leadership proving more effective in this context (Singh et al., 2022). Similarly, in a separate study, researchers conducted a comprehensive literature review to delve into the distinct attributes of transactional and transformational leadership within contemporary corporate settings. The findings suggested that both leadership styles have their own advantages and disadvantages, but the prevailing context leans towards favoring transformational leadership (Sultana et al., 2015).

In higher education, proponents of transformational leadership favor it because it aligns with the core strategic objectives in university mission statements and adapts well across different university levels and broader societal contexts (Hyde-Clarke, 2023). For example, a study examining the impact of transformational and transactional leadership styles on job satisfaction and performance of lecturers at an Islamic university in Jakarta during the COVID-19 Pandemic found that transformational leadership significantly improved lecturers' job satisfaction, whereas transactional leadership had a lesser impact on their satisfaction levels (Azizah et al., 2020). Similarly, in a study involving academics from universities in Pakistan's Khyber Pakhtunkhwa province, researchers explored the impact of leadership styles on faculty performance, using organizational justice as a mediator. The findings indicated that both transformational and transactional leadership styles had positive effects on faculty

performance, with transformational leadership having a stronger influence (Khan et al., 2023). Additionally, further research has linked transformational leadership to positive outcomes, including heightened innovation performance (Sarwar et al., 2022) and the advancement of universities in Brazil (Carvalho et al., 2022).

On the other hand, advocates of transactional leadership emphasize its importance, viewing it as a leadership approach focused on organization, structure, and the pursuit of clearly defined objectives by giving explicit task instructions and prioritizing the preservation of the existing status quo over disruption (Martins, 2023). Transactional leadership has also been recognized in organizational contexts for its substantial role. For instance, in a study conducted in Ghana, researchers explored the influence of transactional and transformational leadership styles on employee commitment. The findings indicated that transactional leadership positively impacted employee commitment. However, combining transformational leadership with transactional leadership did not enhance commitment prediction; instead, it produced a negative interaction effect. Consequently, the recommendation was for leaders to prioritize transactional leadership when seeking to boost employee commitment, as combining it with transformational leadership did not provide additional benefits (Puni et al., 2021).

In the realm of higher education, a mixed-method study was conducted across three public universities in Ethiopia to evaluate the effectiveness of both transactional and transformational leadership styles. The results indicated that transactional leadership emerged as the prevailing and most effective approach in Ethiopian public universities, overshadowing the influence of the transformational leadership style (Abadama, 2020). Similarly, a study in Pakistani universities explored the leadership style preferences of

female leaders in both public and private institutions. It also assessed how transformational and transactional leadership impacted their innovative performance. The findings showed that both leadership styles had a positive influence on innovation, with transactional leadership being the preferred choice among most female leaders in these universities (Sarwar et al., 2022).

2.3.1.4 Blending Transformation and Transactional Leadership

Amid differing views on transformational and transactional leadership in various organizational contexts, including higher education, an emerging perspective suggests leaders should blend different leadership styles harmoniously. Recent research highlights the need to avoid exclusive reliance on transactional leadership and instead embrace an integrated approach with other styles to promote innovation and long-term growth (Dong, 2023). The rationale is that all leadership styles have pros and cons. Thus, disregarding a style solely due to its weaknesses, while ignoring its benefits, may not be wise. For example, it is argued that great leaders adjust their leadership to fit the situation and the needs of their team members, recognizing that each person responds differently (Martins, 2023).

Furthermore, scholars have opined that while transactional leadership delivers expected results, transformational leadership yields performance that surpasses expectations (Singh et al., 2022). This is corroborated by various researchers who have argued that highly effective leaders employ a combination of transformational and contingent reward (such as exchange-based transactional leadership) strategies, while minimizing passive management-by-exception behavior (O'Shea et al., 2009). It's impractical to categorize one leadership style (either transformational or transactional) as superior or

inferior since both are unique with their own strengths. The key is their judicious application, which should be tailored to the specific situation and context (Michigan State University, 2021).

Several studies have investigated the impacts of using both transformational and transactional leadership styles in various organizational contexts, including higher education, and have revealed positive results in relation to employees and organizational performance. For instance, Skopak and Hadzaihmetovic (2022) embarked on a survey study to examine the interplay between leadership styles and employee job satisfaction within the food industry in Bosnia and Herzegovina. Their research uncovered compelling insights: when adopting the transactional leadership style, contingent rewards emerged as a pivotal factor driving heightened job satisfaction. Conversely, when organizations embraced the transformational leadership style, it was factors such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration that played a pivotal role in elevating job satisfaction.

In the context of higher education, Khalifa and Ayoubi (2015) conducted a survey study involving employees from two prominent Syrian universities, one public and one private. Their primary objective was to evaluate how transactional and transformational leadership styles contributed to the advancement of organizational learning within these institutions. Their research findings unveiled that, within the context of transformational leadership, the dimension of inspirational motivation, and within transactional leadership, the dimension of contingent reward, wielded a significant and positive influence on organizational learning in Syrian universities. Similarly, a case

study conducted by Mwita and Mrema (2023) in a Tanzanian university emphasized the prevalence of transactional leadership, as indicated by its higher mean score compared to transformational leadership. The study further reinforced the notion that both transformational and transactional leadership styles were significantly linked to organizational performance. Consequently, researchers recommended employing both transformational and transactional leadership styles simultaneously can lead to favorable outcomes within an organization (Mwita & Mrema, 2023).

The above discussion highlights a lack of consensus among researchers on effective leadership style, as both transformational and transactional have their supporters. Therefore, leaders must combine elements of both styles, tailored to the needs and context of their team. In short, combining both styles can produce positive results, underscoring the importance of leadership versatility in modern organizations, particularly in higher education.

2.3.2 Leadership Styles in Organizational Context

In previous studies, several researchers have attempted to examine the relationship between leadership styles and organizational performance, but there is still disagreement among researchers about the preferred leadership style in different contexts. However, many authors have advocated the use of transformational and transactional leadership styles due to their significant and positive impact on organizational performance (AlKhajeh, 2018; Asimwe et al., 2016; Israel, 2016; Khan et al., 2014; Mgeni & Nayak, 2016; Noruzy et al., 2013; Saad & Abbas, 2019; Saleh, Nusari, Habtoor, et al., 2018).

Some researchers have advocated the use of transformational leadership because of its positive and significant impact on organizational performance. For instance, Saad and Abbas (2019) conducted a study to examine the impact of transformational leadership on organizational performance by employing organizational innovation as a mediator. The results indicated that transformational leadership has positive impact on organizational performance both directly and indirectly, that is through mediating variable of organizational innovation. Second, Al Khajeh (2018) conducted a study to examine the impact of six major leadership styles (including transformational, transactional, autocratic, charismatic, bureaucratic and democratic) on the organizational performance. The findings revealed that transformational, autocratic, and democratic leadership styles had a positive relationship with organizational performance. The study recommended using transformational and democratic leadership styles to improve organizational performance. Third, Hoxha (2019) conducted a study to examine the effect of transformational and transactional leadership on employee performance. The findings revealed that transformational leadership, as compared to transactional leadership, had a considerable effect on the personal performance of employees. Similarly, Velu et al. (2017) conducted a study in the 50 private enterprises (Medium and Large) in Kosovo and the findings revealed that democratic, autocratic and transformational leadership positively influence the performance of employees.

On the other hand, previous studies have also revealed that transactional leadership has a substantial effect on organizational performance. For instance, different researchers have found that transactional leadership has a positive and considerable relationship with the performance of SMEs in African countries, such as Tanzania (Mgeni & Nayak,

2016); Nigeria (Israel, 2016); and Kenya (Asiimwe et al., 2016). Similarly, another study was conducted in small scale enterprises in Nigeria, and the results showed that transactional leadership has a significant positive effect on performance, while transformational leadership has a positive but insignificant impact on performance. The researchers further argued that transactional leadership is more appropriate for increasing organizational performance than transformational leadership (Obiwuru et al., 2011). Also, Ahmad and Ejaz (2019) conducted a study in the Pakistani textile industry by involving 140 employees (middle and upper levels); to examine the impact of transactional leadership and transformational leadership on organizational performance. The results revealed that although both leadership styles have a significant impact on organizational performance, transactional leadership has a greater impact than transformational leadership. At the same time, few researchers perceive that transactional leadership has a negative impact on organizational performance. For instance, Al Khajeh (2018) conducted a study and the findings revealed that charismatic, bureaucratic and transactional leadership have negative relationship with organizational performance. Also, Velu et al. (2017) conducted a study in the 50 private enterprises (Medium and Large) in Kosovo and the results showed that charismatic, bureaucratic, laissez-faire and transactional leadership has a negative impact on the level of employee performance but statistically it was not significant.

However, there are also some researchers who believe that both leadership styles are appropriate and have a positive and significant relationship with organizational performance. Saleh, Nusari, Habtoor, et al. (2018) in their study in Yemen's manufacturing industry have found that both leadership styles (transformational and transactional) have a significant positive effect on organizational performance.

Likewise, Ohemeng et al. (2018) conducted a study at three universities of Ghana with MPA and Ph.D. students as respondents. This study concluded that both leadership styles (transformational and transactional leadership) are positively related to job performance, and this positive relationship is also attributed to the quality of the relationship between the leaders and their subordinates. In addition, researchers believe that administrative leaders must develop transformational and transactional leadership styles of leadership to support performance in organizations, while reducing laissez-faire leadership practices.

2.3.3 Leadership Styles and Higher Education Performance

According to Gozukara (2016), “research on leadership styles in educational institutions is relatively new compared to the research in the organizational context”. This shows that leadership styles in relation to HE performance have not been extensively investigated. However, some of the studies that have examined leadership styles in the context of HE, are discussed below with the aim to identify potential weaknesses for future research. For instance, Rahnuma (2020) conducted a study to evaluate the experiences of academic and administrative leaders relating quality culture at a private university in Bangladesh. The results found that all interviewees emphasized the significant role of leadership in establishing and maintaining a quality culture through effective communication and ensuring quality mission, vision, and values. However, academic leaders noted that ordinary staff lack awareness of how they contribute to the realization of the university's vision of quality. Additionally, values and expectations were generally not communicated to all employees, and they were not often "told" how they could contribute to the mission of the university.

Abubakar and Ahmed (2017) performed a study to examine the effect of a transformational leadership on the performance of universities in Nigeria. The study results revealed that transformational leadership had a significant positive effect on university performance. However, there are a few weaknesses of this study. First, this study has ignored to investigate the effect of transactional leadership on the performance of universities in Nigeria. Second, this study has not incorporated the mediating effect of quality culture in the relationship between transformational leadership and university performance. Moreover, this research has only been conducted in one African country (Nigeria), so there may also be a practical gap due to different contexts. To conclude, further research is needed to examine the effects of leadership styles (in terms of transformational and transactional leadership), as well as introducing a quality culture as a mediator in the relationship between leadership styles and university performance in Asian countries like Pakistan. Such research may improve the generalizability of the results to other parts of the world.

Wahab et al. (2016) conducted a study to examine the leadership practices of Public Universities leaders in Klang Valley, Malaysia. The study found that most academic leaders at Klang Valley's public universities practiced transformational leadership. Moreover, the study revealed that transformational leadership also supported knowledge sharing among educators. However, the study has few limitations. First, this study adopted a descriptive and correlational research approach. Second, the study was conducted in only five public universities of Klang Valley area in Malaysia. Moreover, the population of the study was 419 faculty members (including one Dean, three Dy. Deans and number of HODs), while the desired sample size was calculated as 201. However, this study lacks clarity in terms of how and through which means data were

collected. Similarly, this study did not mention the actual sample size and response rate either. To conclude, it is necessary to conduct a study involving transformational and transactional leadership in relation to HE performance to provide empirical evidence and increase the generalizability of the results.

Furthermore, Ali (2019) conducted a study to examine the impact of Laissez-faire, transactional and transformational leadership styles on organizational performance of Bacha Khan University Charsadda (BKUC). The study findings revealed that all of three leadership styles have a positive and considerable relationship with organizational performance. However, the results show that the transactional leadership has the highest coefficient value (Beta = 0.486), the laissez-faire leadership style has the second highest coefficient value (Beta = 0.320), while the transformational leadership has the lowest coefficient value. Value (Beta = 0.227). However, this study has certain theoretical and empirical gaps. First, the study only investigated the direct relationship between the three leadership styles and organizational performance. This study has ignored the quality culture as a mediator among leadership styles and organizational performance. Second, the study adopted a case study approach and was conducted in a single public sector university of KPK province in Pakistan. Moreover, the population of the study was all faculty members of BKUC. Lastly, the study used convenience sampling techniques for data collection and the sample size was limited to 110 faculty members. To conclude, considering the limited scope of this study, the results cannot be generalized to other universities, especially to the private sector in other parts (provinces) of Pakistan.

Torlak and Kuzey (2019) conducted a study to examine whether which leadership style (transactional or transformational) is generally effective in the education sector of Pakistan and to investigate the impact both styles on the job satisfaction and performance of employees. The study concluded that some dimensions of transformational and transactional leadership (such as management by exception and idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration) had significant positive relationship with job satisfaction and performance of employees. In contrast, contingent rewards had no significant relation with job satisfaction of employee, and weak positive significant association with job performance of employees. However, this study has some weaknesses. First, the study was only done in four private institutes (schools and colleges), so there is lack of empirical evidence. Second, the sample size was limited to 192 respondents including administrators, teachers, and lecturers. Moreover, the study adopted a cross-sectional approach and data were collected through interviews and e-mails. Lastly, the study used convenience sampling techniques for data collection. To conclude, there is a need to verify the study results by involving more respondents mainly from public and private sector universities in Pakistan to increase the generalizability of the results.

In conclusion, the findings of previous studies showed that leadership styles have not been extensively investigated, especially in relation to HE performance; and therefore, there is a gap in the existing literature. This research attempts to examine the effect of both leadership styles (transformational and transactional leadership) in relationship with HE performance in Pakistani universities.

2.4 Accreditations (ACC)

Accreditation originated in the late 19th century amid disagreements on post-secondary curricula, blurred lines between secondary and post-secondary education, and the need to establish peer review guidelines and procedures for membership (Hegji, 2020). However, researchers have not reached a consensus on accreditation periods within higher education, and similar and somewhat overlapping categories exist in different periods of historical development (Alstete, 2007). This uncertainty prompted the emergence of accreditation as a response to the absence of a centralized authority responsible for establishing educational standards within the American higher education system (Hegji, 2020).

In recent decades, globalization has intensified competition among universities. Consequently, institutions are focusing on increasing student enrollment and improving current students' satisfaction and loyalty for retention (Bakrie et al., 2019; Busaidi, 2020; Makhoul, 2019; Raghavan & Ganesh, 2015). Within this competitive landscape, university leaders are increasingly focused on achieving high ranks in international standings. In this context, the accreditation process assumes significance, as it becomes a strategic tool that can aid in accomplishing these goals (Acevedo-De-los-Ríos & Rondinel-Oviedo, 2022).

Sanyal and Martin (2007) describe accreditation as “the outcome of a process by which a governmental, parastatal or private body (accreditation agency) evaluates the quality of a higher education institution as a whole, or a specific higher education programme/course, in order to formally recognize it as having met certain predetermined criteria or standards and award a quality label”. Similarly, Vlăsceanu et al. (2007) define

accreditation as “the process by which a (non-) governmental or private body evaluates the quality of a higher education institution as a whole or of a specific educational programme in order to formally recognize it as having met certain pre-determined minimal criteria or standards”. In addition, accreditation stands as a prominent method of quality assurance, wherein HEIs assess their practices against quality criteria established by accrediting agencies and strive for continuous improvement in their operations (Ülker, 2023).

To sum up, the definitions above exhibit common themes centered around quality assessment and recognition via accreditation. However, they differ in their emphasis on the accrediting body, the nature of criteria or standards (quality label versus minimal standards), and the extent of evaluation (institution, program, or module).

2.4.1 Types of Accreditations

Accreditation can be divided into two main types: institutional and specialized (program) accreditation (Baker, 2002; Hanh, 2020; Vlăsceanu et al., 2007).

On the one hand, institutional accreditation refers to the accreditation of an entire institution, encompassing all of its programs, locations, and delivery methods, without compromising the quality of the institution's programs of study (Vlăsceanu et al., 2007). Likewise, by another definition, institutional accreditation assesses the entire institution through qualitative standards that place a strong emphasis on accomplishing the institution's mission and objectives, without a specific focus on monitoring or accrediting individual programs or subject content areas (Baker, 2002).

On the other hand, specialized or program accreditation refers to the type of accreditation that focuses on individual programs, evaluating them based on program-specific quantitative standards that are unrelated to the institutional mission and goals (Baker, 2002). Similarly, specialized accreditation can be defined as “accreditation of individual units or programmes (e.g. professional education), by “specialized” or “programme” accrediting bodies applying specific standards for curriculum and course content” (Vlăsceanu et al., 2007). According to another definition, specialized accreditation is a type of evaluation program with the objective of guaranteeing the quality of academic programs that is adequate for the level of certification issued to students (Hanh, 2020).

In short, both types of accreditations are equally important for any institution or its programs. On the one hand, regional or institutional accreditors (accreditation bodies) conduct overall reviews of institutions, while on the other hand, specialized accreditors (accreditation bodies) independently evaluate specific programs. This study evaluates the accreditation practice of Pakistani universities from both perspectives, while gaps in the previous literature related to accreditation practices are discussed in detail in the next section.

2.4.2 Accreditation in the Context of Higher Education in Pakistan

The issue of quality in HE has always been a subject of public debate in the Pakistani context for various reasons such as teaching (Banuri, 2021; Mahesar, 2019; Hoodbhoy, 2009), research (Banuri, 2021; Mahesar, 2019; Mian, 2019; Hoodbhoy, 2009), and service quality (Arrieta & Avolio, 2020; Abbas, 2020; Nisar, 2019; Mastoi et al., 2019; Gupta & Kaushik, 2018; Cheruiyot & Maru, 2013). To address these quality challenges,

HE authorities felt the need to establish a comprehensive quality assurance mechanism in the context of HE in Pakistan to meet the country's national needs.

HEC operates a centrally integrated QA mechanism to meet internal and external quality assurance standards in the context of HE in Pakistan. The three distinguished components (pillars) of quality assurance mechanism as devised by HEC include: (1) self-assessment of academic programs (IQA); (2) accreditation system (EQA) at both the programmatic and institutional levels; and (3) meta-evaluation; while the role of QAA is to monitor these quality assurance processes (Batool & Qureshi, 2007). Quality assurance mechanism in the context of HE in Pakistan is given in Appendix B and consists of three main components as discussed below.

Self-Assessment (SA), also known as Internal Quality Assurance (IQA) system, is the first component of the entire quality assurance system in Pakistan. The SA is an internal review mechanism in HEIs, as it is carried out within academic programs and departments (Batool & Qureshi, 2007). The departmental SA systematically and consistently collects relevant information to assess academic programs. The SA mechanism also develops auditors as part of the PTs to carry out SA (Batool & Qureshi, 2007). The SA activities are conducted through QECs in universities, which allow departments to periodically assess the quality of academic programs in terms of quantitative reports, called Self-Assessment Reports (SAR) (Batool & Qureshi, 2007). To promote SA goals, regular review meetings and follow-up visits are also held to measure progress. The quality of the SA mechanism of HEIs is measured annually by a scorecard. The self-assessment cycle starts on July 1 and ends on June 30 of the next year (HEC, 2021b). Assessment practices are classified in percentages and reflected in

four levels or categories, namely W, X, Y and Z (HEC, 2021b). Another important role of SA is to prepare universities for external evaluations, either by QAA or HEC, a third party or by accreditation councils. Overall, there are mainly 08 criteria (along with relevant standards) for self-assessment of academic programs (Raouf, 2006), and given as Appendix C.

The accreditation or External Quality Assurance (EQA) system is the second component of the entire quality assurance system in Pakistan. Accreditation is an external evaluation process to scrutinize colleges, universities, and HE programs for QA and quality improvement (Batool & Qureshi, 2007). The information gathered from the SA serves as the basis for accreditation to improve institutional performance. Regarding the development and validation of accreditation standards, institutional-level standards are developed by HEC through QAA, while accreditation councils are responsible for developing accreditation standards in their respective fields (domains) in consultation with HEC (Batool & Qureshi, 2007). At the same time, accreditation of undergraduate programs is carried out by the fourteen accreditation councils/professional bodies that have been established and functional in Pakistan (HEC, 2021a). On the other and, postgraduate programs are evaluated or accredited by the HEC itself (Batool & Qureshi, 2007).

Therefore, the HEC has a dual function, it acts as an accreditor and accreditor of accreditors. First, as an accreditor: HEC conducts accreditation at two levels, institutional level, and post-graduate level, such as the peer-review of MS, M. Phil, and Ph.D. level programs. Second, as an accreditor of accreditors: as HEC oversees the effectiveness of QAA and other independent accreditation councils that act as external

evaluators and accreditors (Batoool & Qureshi, 2007). The objective of HEC is to ensure that the relevant standards are being implemented or not, and to make these programs internationally compatible (Batoool & Qureshi, 2007). Overall, there are 11 standards that HEC has established in collaboration with QAA for accreditation at the institutional level (QAA, n.d.). Details of these accreditation standards (institutional performance assessment) are given as Appendix D.

Meta-evaluation is the third and last component of QA system introduced by HEC in Pakistan (Batoool & Qureshi, 2007). It is believed that SA and accreditation systems are closely related and integrated. For example, SA provides basic information and is considered essential for accreditation, while accreditation system motivates SA for future developments and improvements (Batoool & Qureshi, 2007). In contrast, meta-evaluation is basically an evaluation of the first two components. In addition, the meta-evaluation also refers to the accountability of HEIs and HEC for the use of the resources that the government makes available to them to comply with national requirements (Batoool & Qureshi, 2007). Michael Scriven, defined meta-evaluation as:

“the evaluation of evaluations - indirectly, the evaluation of evaluators - and represents an ethical as well as a scientific obligation when the welfare of others is involved. It can and should be done in the first place by an evaluator on his or her own work; although the credibility of this is poor, the results are considerable gains in validity...[Because] the results of self-evaluation are notoriously unreliable, however, it is also desirable, wherever cost-justifiable, to use an independent evaluator for the meta-evaluation” (Scriven, 1991).

In Pakistan, HEC has been seen as a meta-evaluator for two reasons: first, it acts as an accreditor of accreditors to evaluate the effectiveness of SA and accreditation systems; second, it also monitors the effectiveness of QAA, to determine whether the quality improvement goals in HE have been achieved or not (Batool & Qureshi, 2007).

2.4.3 Accreditation and Higher Education Performance

Given the current QA framework in the Pakistani HE context, accreditation is the most important pillar as HEC makes it mandatory for all universities to be accredited before they can start operating in Pakistan. Accreditation is carried out at two stages: program accreditation by relevant accreditation council, and institutional accreditation at institution level. In previous literature, researchers have attempted to examine the impact of accreditation on different academic activities and their quality in HEIs. For instance, Kumar et al. (2020) argued that accreditation has a significant impact on the quality and excellence of HEIs. Based on the extensive literature review, some of the important studies related to accreditation have been critically reviewed along with their limitations, which are as follows.

Makhoul (2019) performed a study to assess the relationship among HE accreditation and teaching and learning enhancement in an academic setting. The findings have shown that AACSB provides an ideal guidance framework, including the effective assessment criteria for quality of learning and universities. The study highlighted the lack of generally acceptable standards amongst accrediting agencies. The researchers argued that there is a need to introduce additional quantification measures for accreditation, such as faculty retention and student attrition rates. This study has few

limitations. First, this study uses an explanatory qualitative research design. Second, the interviewees were 30 faculty members holding (tenure-track positions) from the business schools of four Lebanese universities that have already been accredited from the “Association to Advance Collegiate Schools of Business” or pursuing accreditation at that time. Third, the sample size consisted of 30 faculty members drawn from four Lebanese HEIs. Yet, given the qualitative nature of this study, the results cannot be generalized to other universities in the world until they are empirically verified. Therefore, a new study is needed by including some key variables to examine their effect on HE performance in developing countries like Pakistan.

Nguyen and Hien Ta (2017) in their study investigated the views of HE managers, staff, teachers, and students on the impact of accreditation on institutional quality management. This was a case study and the researchers used semi-structured interviews to collect data from participants from a prominent university in Vietnam. The findings showed that most of the university's activities, including programs, teaching activities, faculty, support staff, students, and facilities, are considerably affected by accreditation. Thus, the researchers posited that accreditation substantially improves the academic quality of the university, such as teaching, learning and R&D. However, this study has some limitations. First, a case study approach was adopted at a Vietnamese university, so the results cannot be generalized elsewhere unless empirically verified with a larger sample size. Second, a purposive sampling technique was used in this study, which may involve an element of bias. Moreover, the data were collected by using semi-structured interviews from 34 people. In conclusion, due to these shortcomings, the study's findings lack empirical evidence and are difficult to generalize across universities of the world. Therefore, a new study is necessary applying a quantitative survey approach,

a larger sample size and incorporating the perception of other stakeholders to make the results more generalizable.

Similarly, Jalal et al. (2017) performed a qualitative study to describe the dynamics of accreditation and quality enhancement towards the quality of the programs and the attributes development of the graduates. The researchers adopted a multiphase sampling technique; first, two (NACTE and PEC) accreditation councils were purposively selected, and then three members were conveniently selected from each council. Similarly, 21 QEC directors from 24 public and private universities located in Punjab and the capital Islamabad were randomly selected. The data were collected through semi structured interviews and analyzed through NVivo-11 software. The findings showed that NACTE, PEC, and QECs play a limited role in ensuring faculty quality, curriculum quality, closing the skills gap, developing graduate attributes, and reducing conflicts of interest, academic corruption, and political interference in HE. These shortcomings have raised the challenges for NACTE, PEC and QEC to ensure the quality of the programs to compete at world level. However, this study has few limitations. First, the study used a qualitative research approach and a combination of sampling techniques (multiphase sampling). Second, the focus of this study is on program accreditation rather than institutional accreditation. Third, this study is limited to only two of the fourteen accreditation councils in Pakistan. Given these shortcomings, more empirical evidence is needed to generalize the results to other universities. Therefore, there is a need for a large-scale survey-based, quantitative study so that findings can be replicated or generalized to other HEIs in Pakistan and across the world.

In contrast, the following few studies have taken a quantitative approach to examine accreditation in the context of HE. Jalal et al. (2020) in their survey-based study examined the effectiveness of accreditation mechanism for teacher training in Pakistan. The study found that the “National Accreditation Council for Teacher Education” (NACTE) standards cannot gain wide acceptance and support from teachers. They also argued that the mechanisms for accreditation of teacher education are less effective in meeting standards for providing modern, appropriate, and quality education to teachers in Pakistan. However, this study has some limitations. First, the researchers adopted a combination of two sampling techniques since the target population was comprised of teachers and students of 135 teachers’ education institutes (both public and private). So, initially researchers purposively selected two education programs (Master of Education “M.A.” and Masters in Education “M.Ed.”) at their own choice, which is a kind of non-probability sampling and might involve sampling bias, then these programs were further divided into two “Accredit” and “Non-Accredit” strata by using stratified random sampling techniques. The sample size selected for this study consisted of 614 participants from 24 HEIs. Second, the scope of this study was limited to program level accreditation (teacher education programs) undertaken by relevant accreditation council (National Accreditation Council for Teachers Education – NACTE). Third, researchers used questionnaires for data collection, but there is no information provided by the researchers, whether the scale was adapted or self-developed. Lastly, no pilot study was done to check reliability and validity of the scale. In conclusion, there is a need for a new study by using reliable scales, appropriate sampling techniques, representative sample sizes from different programs and by analyzing data using advanced software (such as PLS software) for generalization of the results to universities across the globe.

Ulker and Bakioglu (2018) in their study attempted to examine the influence of accreditation on academic quality based on the perceptions of self-study coordinators and program administrators in the US context. The results indicated that accreditation has a generally positive influence on academic quality and tends to improve the processes and practices of institutions that are relatively new (20 years), compared to older ones (41 years). Also, accreditation contributes more positively to the initial accreditation process than re-accreditation. In addition, accreditation contributes the most to learning outcomes and least to students graduating from the program. This study adopted a descriptive survey model (general scanning), while data was collected through a self-developed questionnaire. The scale undergone pilot testing and factor analysis, and the final questionnaire was comprised of 64 items along with 13 demographic questions. Furthermore, the data were analyzed through SPSS 21. However, there are some limitations to this study. The study was limited to program-level accreditation, and the survey primarily involved 87 US programs, compared to 9 programs in other countries, including Qatar, Peru, Kuwait, Colombia, Saudi Arabia, Egypt, and Turkey. Likewise, this study included only the perceptions of the self-study coordinators and program administrators who participated in the accreditation practices, so there could be an element of bias in the results. In conclusion, given the above limitations, a new study incorporating the perceptions of respondents from universities located in developing countries (such as Pakistan) is needed to generalize the results to other programs and institutions around the world.

Last but not least, Dattey et al. (2017) performed a study to investigate the influence of accreditation on the quality of input factors (such as, curriculum, faculty recruitment,

student-staff ratio, and library facilities) after two assessment cycles in Ghanaian universities. This study used a quantitative (descriptive and explanatory) research design to analyze (for better or worse) changes occurring in chosen indicators from one assessment cycle to another and as reflected in the evaluators report. The findings indicated unpredictable levels of improvement in the indicators selected in subsequent assessments compared to previous ones. However, the focus of this study was limited to investigating the impact of program accreditation on the quality of input factors rather than the quality of learning outcomes or organizational performance. Given the above studies, and their limitations and gaps, there is a need for new research to examine the effect of institutional accreditation on HE performance.

2.5 Motivation (MOT)

Generally, motivation is a stimulating force for people to adopt goal-oriented behaviors at the individual and organizational level. However, despite its fundamental role, many researchers argued that there is no obvious, distinct and generally accepted definition of motivation (Locke & Latham, 2004; Ololube, 2006; Rhodes, 2006). The term motivation was originated from the Latin word "movere" meaning "to move" (Kiziltepe, 2008; Steers et al., 2004). However, it was Sigmund Freud, the first person to realize the significance of motivation, considering that people will not always realize what they want, so their behaviors are subject to motives or unconscious needs (Hersey & Blanchard, 1988).

Researchers defined motivation in a numerous ways: some perceived it as the power of a movement that integrates efforts to achieve satisfaction and accelerate awakening in which individuals work together effectively (Ambrose & Kulik, 1999); while for others

it is provision of incentives to encourage people to act according to their wishes (Certo, 2019). Similarly, according to Broussard and Garrison (2004) motivation is a distinctive attribute that drives people to perform or not. Whereas others deemed motivation as a goal directed behavior. For instance, Inceoglu et al. (2012) defined motivation as an urge or mobilization force that can drive, direct, and organize human behaviors. Also, motivation is considered as a process of stimulating, directing, and supporting one's efforts to achieve a goal (Dewi & Wibowo, 2020).

In this study, the concept of motivation has been operationalized from the perspective of faculty members, as they are the backbone of any institution and are often assigned tasks of diverse nature on and off campus. Therefore, their motivation is of great importance for the success of students, institutions, and other stakeholders. Faculty motivation is a combination of two words: faculty and motivation. To begin with, the word "faculty" is a familiar term in the education sector. According to the Oxford Learners's Dictionaries (2021a), the word faculty has many meanings, but three of them are the most relevant from an educational perspective, including: (1) "all the teachers of a particular university, college, or school (e.g., faculty members); (2) a department or group of related departments in a college or university (e.g., the Faculty of Law, and the Arts Faculty); and (3) all the teachers in a faculty of a college or university (e.g., the Law School faculty". Likewise, Harvey (2004) defined faculty as: (1) "the organisational unit into which cognate disciplines are located in a higher education institution"; (2) "a shorthand term for the academic (teaching and research) staff in a higher education institution". In short, faculty motivation is an "overall processes that give rise to faculty members initiating, sustaining, and regulating goal-directed behaviors"(Daumiller et al., 2020).

2.5.1 Types of Motivation

Motivation is a complex, non-consensual term (Dörnyei & Ushioda, 2011), and so are its types. Researchers have different perspectives on the types of motivation. For some, motivation has two aspects: (1) initial motivation, which involves the reasons for opting to do something; and (2) sustain motivation, which means the attempt to maintain something (Williams & Burden, 2007). While few have argued that employee motivation can be increased in two ways, one is direct motivation by meeting the material and non-material needs of employees, and the other is indirect motivation by offering all resources to support their work (Zamanan et al., 2020). On the contrary, most researchers classify motivation based on the intrinsic and extrinsic behavior of individuals, which are related to internal and external factors, respectively. These two forms of motivation are discussed below.

2.5.1.1 Intrinsic Motivation

Intrinsic motivation consist of behaviors initiates from within a person and that positively affect employee behavior, performance, and well-being (Ryan & Deci, 2000). Furthermore, intrinsic motivation is the motivation when people act because of the attraction or satisfaction associated with a particular activity (Rita et al., 2018). Also, intrinsic motivation is related to the expression of personal aspirations, and this implies improving the behavior of employees so that they perform well for their internal pleasure and satisfaction (Lashway, 2001; Zaccone & Pedrini, 2019).

2.5.1.2 Extrinsic Motivation

Extrinsic motivation, on the other hand, involves valuing or complimenting someone's behavior as a tool, so the satisfaction obtained does not come from the activity, but as an external result leading to the activity (Rita et al., 2018). The extrinsic motivation involved external rewards such as salary (Armstrong, 2006), as well as “free accommodation, free meals, material assets, positive evaluations, weekly paid duty, extra teaching allowances, advance payments and loans, leave encashment and medical facilities or allowances” (Sahito & Vaisanen, 2018). However, salary is the most persuasive motivating factor, so any raise in salary can improve teacher satisfaction and motivation that will directly influence their performance (Cascio, 2010). The performance of an activity under extrinsic motivation is related to the desired outcome through rewards or awards (e.g., salary or prizes). Although the activities can be tough, dull, and awful, however, various rewards can make them valuable and interesting (Lashway, 2001). However, previous literature lacks conclusive evidence of which type of motivation has more influence on employee performance and leads to organizational success.

Turner (2017) conducted a study based on the evaluation of literature to determine what type of motivation (intrinsic or extrinsic) has the driving force for employee's performance in organizations. The study found no conclusive evidence about intrinsic or extrinsic motivation driving employees and organizational performance, but it did conclude that extrinsic motivation is often used to attract employees; and it is up to organizations to regulate the use of extrinsic power by deciding the best method to impart it. However, since this study adopted a literature review approach, the results

cannot be generalized due to a lack of empirical evidence, especially in the context of HE.

Similarly, Olugu et al. (2018) carried out a study based on the perception of employees working in the Nigerian Public Complaints Commission (PCC), to investigate the effect of intrinsic and extrinsic rewards on employee performance, leading to organizational performance. The findings showed that both rewards have a considerable effect on organizational performance. But the intrinsic reward contributed the most (48%), compared to the extrinsic reward that contributed the least (22%) to organizational performance. However, since the scope of the study was limited to 137 employees in a single complaints organization in Nigeria (i.e., PCC), its results lack empirical evidence in the context of HE.

In addition, Senanayake and Gamage (2017) in their study investigated the impact of motivational factors (both intrinsic and extrinsic) on the organizational performance of Sri Lanka Telecom. (SLT). The survey results showed that both intrinsic and extrinsic motivation have a positive influence on organizational performance, however, factors related to intrinsic motivation have a greater influence on the motivated behavior of operational managers than extrinsic factors that cause moderately in SLT. However, this study is also limited to 100 operational level managers from a single organization in Sri Lanka (i.e., SLT).

2.5.2 Motivation in Organizational Context

Motivation is an essential factor that can potentially influence the performance of both employees and their organizations. For instance, researchers have argued that employee

performance is highly dependent on factors such as (1) employee motivation; (2) training and development; (3) performance evaluation; (4) employee satisfaction; (5) compensation; (6) job security; and (7) organizational structure, etc. (Hussein & Simba, 2017). Several studies have examined employee motivation in the organizational context, some of them are as follows.

Ochola (2018) conducted a study based on document analysis and concluded that employee motivation can have a considerable effect on organizational performance. He further argued that stressed and exhausted employees can degrade performance, while motivated employees can improve productivity and performance by focusing on organizational goals. However, this study was based on document analysis and therefore lacks empirical evidence. Moreover, the context of this research is very broad, so new research is needed in the context of higher education to examine the effect of faculty motivation on HE performance in Pakistan.

Geelmaale (2019) conducted a study to examine the influence of employee motivation on organizational performance, and the relationship between reward systems and organizational performance. The results showed that employee motivation had a positive effect on organizational performance, while at the same time there was also a relationship between the reward system and organizational performance. However, as this study was based on a literature review, the study lacks empirical evidence in the context of HE. Therefore, the results of the study should be empirically verified by collecting primary data in the context of HE in Pakistan to increase the generalizability of the results.

Besides, in Nepal, Dwibedi (2017) conducted a study based on a literature review to identify the factors that can affect the relationship among employee motivation and organizational performance. This study concluded that empowerment and recognition had a positive association with employee motivation. Also, this study also found that employee motivation improves organizational performance by establishing a direct and positive relationship with organizational growth, prosperity, and productivity. However, this study lacks empirical evidence as the study used the literature review to examine the effect of employee motivation on organizational performance. In addition, the scope of the study was also limited to Nepalese manufacturing organizations only.

2.5.3 Motivation and Higher Education Performance

Faculty members undoubtedly play a vital role in any educational institution while their motivation is the driving force to make them responsible, focused, and capable of achieving the assigned goals. According to Daumiller et al. (2020) motivation of university faculty is an overall process that leads faculty members to initiate, support, and regulate goal-oriented behavior. Moreover, researchers have argued that faculty motivation has a positive effect on academic quality in HE. Schomaker (2015) argued that due to low motivation and salary, Egyptian universities lack qualified and adequate faculty members, resulting in poor academic quality and even corruption. Besides, the low motivation of the faculty members even has a negative effect on our society. Such as researchers argued that the performance of the faculty members in HE is also critical for the society (Daumiller et al., 2020).

In addition, researchers have also indicated several reasons for a relatively smaller or low volume of research on faculty motivation including: (1) socially intimidating and

methodological problems; (2) the former researchers' belief that the faculty is highly motivated; and (3) the researchers' perception that the faculty members have no problem to solve (Daumiller et al., 2020). Based on the extensive literature review, some of the important studies related to faculty motivation have been critically reviewed along with their limitations and are as follows.

Rasheed et al. (2016) conducted an exploratory study, based on face-to-face interviews with regular teachers by using stratified random sampling technique, to examine the various issues of teacher motivation at 5 public universities in Pakistan. The study results showed that issues such as salary packages, job design & working environment, performance management system, and training and development have a major positive impact on teacher motivation in Pakistan's public sector universities. However, this study has few weaknesses, including: the study was only conducted at public universities in Punjab and Islamabad in Pakistan, but ignored the private sector universities; secondly, although the study mentioned the desired sample size as 341, no information was provided on the actual sample size or response rate.

Also, Rahnuma (2020) performed a qualitative study to assess the experience of academic and administrative leaders in a private university in Dhaka, Bangladesh. The study results showed that most teachers believe that intrinsic motivation is a way to stimulate enthusiasm for teaching and research, continuously improving the quality of teaching and maintaining the level of satisfaction. On the contrary, the participants believed that recognition, rewards, and financial benefits are examples of extrinsic motivation that are critical to their personal growth. To conclude, this was purely a

qualitative study and the study findings regarding intrinsic and extrinsic motivation need to be verified empirically in context of HE in Pakistan.

Lastly, Sahito and Vaisanen (2018) conducted a qualitative study by adopting a case study approach to explore the experiences of teacher educators (TEs) about their motivation in respective departments and universities of Sindh province in Pakistan. The participants revealed that motivation has a pivotal role in achieving organizational goals. While, the whole motivation process depends on the employees' willingness to work gradually, which is never practical without their will, as well as notification of their organizational heads, as they always dictate employees, especially the teacher educators. In conclusion, despite a qualitative study, this study also indicates few other gaps. Firstly, a case study approach was selected in this study. Second, forty teacher educators were selected using snowball and purposive sampling, while the primary data was collected through semi-structured interviews. In addition, all teacher educators were recruited from fourteen education departments of seven universities in Sindh, Pakistan. In conclusion, considering the limitations and gaps of the four studies mentioned above, an empirical study is needed by introducing faculty motivation as an independent variable to assess its effect on HE performance (teaching, research, and service) in the Pakistani context; and by applying an appropriate probability sampling technique so that the results are generalizable to other parts of the world.

In contrast, the following quantitative studies have also been critically reviewed to identify any gaps or limitations that could be incorporated in future studies. Mynzhanova et al. (2018) in their survey-based study attempted to investigate the ratings of universities based on the motivation of faculty members, which affects the

development of human resources and improves the competitiveness level of universities. The study results revealed that the selected (target) university has a rating of B $\pm$, showing very high results. However, there are few weaknesses in this study. First, this study has a very narrow scope. Although, the population of this study is mentioned as HEIs, the study was conducted only at one university in Almaty, Kazakhstan. Second, the respondents of this study were faculty members with a background of Economics. Finally, the sample size was only limited to 42 respondents. Given the above limitations, there are methodological and practical gaps in this study. Therefore, new research based on perceptions of faculty members with different academic backgrounds in public and private universities undoubtedly increases the likelihood of generalization of the results.

Dewi and Wibowo (2020) have carried out a study to explore the influence of leadership style, OC, and motivation on the performance of lecturers at an Indonesian university (Universitas Maarif Hasyim Sidoarjo). The results showed that motivation partially influences the performance of permanent university lecturers. This study used a descriptive and explanatory research approach. In addition, the study adopted proportionate stratified random sampling techniques for collection of data. In conclusion, this study was conducted only in one university with a limited sample of 60 lecturers. Hence, the results must be empirically verified with a larger sample size to generalize them to universities in other parts of the world.

Lastly, Hanaysha and Hussain (2018) conducted a study at public universities in Malaysia to assess the influence of employees' empowerment, training and teamwork on their motivation. The survey results indicated that empowerment, training, and

teamwork have a considerable positive impact on the motivation of employees. However, this study has some weaknesses. First, this study has only been conducted at Malaysian public universities. Second, the study was restricted to factors that may influence the motivation of HE employees in Malaysia. Third, the study population consisted of academic and administrative staff, while online survey methods were employed to collect data. Furthermore, employee motivation has been investigated as a dependent variable rather than an independent variable. Finally, a convenient sampling technique was adopted for data collection from the respondents. In conclusion, considering these limitations, more research is needed to generalize the results to universities around the world.

2.6 Quality Culture (QC)

Culture is a widely used concept, but researchers disagree about the origin of the word culture. Some believed that the word "culture" came from French, for instance, Tsioumis et al. (2006) argued that the word "culture" was coined in France in the 18th century and was used as a legal term until 1752. It has three meanings: (1) intellectual culture; (2) education; and (3) the culture of primitive societies, while in Greek the word culture and its derivatives are used as derogatory expressions. On the contrary, others believed that the word "culture" originated from the Latin word "cultura". It is a derivative of the verb colo (infinitive colere), which means: (1) "to tend"; (2) "to cultivate"; and (3) "to till" amongst other things (Tucker, 1931). The other meaning of the verb colo is animus ("character"). In such case, the phrase refers to the cultivation of human character and therefore the Latin term "cultura" can be linked with education and enhancement (Minkov & Hofstede, 2013). As for definition of culture, Dorfman and House (2004) have defined it as "shared motives, values, beliefs, identities, and

interpretations or meanings of significant events that result from common experiences of members of collectives and are transmitted across age generations”.

The term organizational culture (OC) resembles a multi-story building composed of a collection of artifacts, values, and assumptions that resulted from the interaction of members of the organization (Zaied et al., 2015). “OC is basically a set of shared values and beliefs which interact with an organization’s people, structure and systems to produce behavioral norms”(Malhi, 2013). OC takes place at different levels, where "level" corresponds to the degree to which cultural phenomena can be perceived (Schein, 2009). The first level is known as “artifacts”, which are observable, such as, organization charts and stories told about the organization, style of speaking, and dressing (Schein, 2009). The “espoused values” are the second level (underneath artifacts) and consist of values, norms, principles, strategies and goals, these values have not been written, but can generally be identified (for example, using questionnaires). However, it is difficult to get an idea of espoused values simply by observation (Schein, 2009). The third and final level of OC is the “underlying assumptions”, which is often very difficult to change, unconscious, and often taken for granted (Schein, 2009).

Quality culture, on the other hand, is considered a subset of OC, which concentrates on instilling an understanding of quality among members at all organizational levels to efficiently achieve the objectives of the company. This is also supported by Berings et al. (2010), who have stated that the Flemish Bologna Expert Team uses the definition of quality culture as follows: “quality culture is an organisational culture which contributes to the development of effective and efficient care for quality”. As for

definition of quality culture, Harvey (2004) argued that quality culture is a “set of group values that guide how improvements are made to everyday working practices and consequent outputs”.

In addition, researchers attempted to define quality culture in different ways. For instance, quality culture is generally known as attitudes and values that improve the level of quality of the organizational service (Al-Otaibi, 2015). It is a process of continuous improvement in which the entire organizational community is held responsible for maintaining a conducive work environment that leads to organizational excellence (Trewin, 2002). According to Liu (2000), quality culture simply puts quality first by employing quality standards, innovative ways to improve quality and the art of managing quality and its consciousness, as well as other spiritual and cultural actions within the organization. Simply put, quality culture is how people at all levels are concerned about the quality in their day-to-day activities within an organization. Besides, Al-Otaibi (2015) argued that “quality culture is a positive reflection of the environment with commitment to quality result, process, systems, and product; it stresses upon a persistent positive change in an organization to interwoven with the organization’s strategy, policy or mission statement and is described as a way of decisions making”. While, in HE context, Ali and Musah (2012) defined quality culture as “the overall attitude of an institution, which focuses on the concept of quality and applies it to all aspects of its activities”. Also, The European University Association (EUA) has developed the definition of quality culture, which is considered the most comprehensive definition:

“Quality Culture refers to an organizational culture that intends to enhance quality permanently and is characterized by two distinct elements: on the one hand, a cultural/psychological element of shared values, beliefs, expectations and commitment towards quality and, on the other hand, a structural/managerial element with defined processes that enhance quality and aim at coordinating individual efforts” (EUA, 2006).

2.6.1 Quality Culture in Organizational Context

In previous literature, a great deal of emphasis has been placed on investigating OC, compared to QC, especially in HE settings. Likewise, studies investigating QC have primarily examined it as an independent variable in the context of HE. Some of the studies that have attempted to examine QC as an independent variable in the context of HE, are discussed below along with their weaknesses and gaps.

First, Hildesheim and Sonntag (2019) carried out a study in three German HEIs to develop an organizational-psychological questionnaire "Quality Culture Inventory" and to investigate the associations among the quality culture dimensions and possible outcome measures (including: job satisfaction, HEIs commitment and career development). The study was piloted at three universities and the sample size for the main study consisted of 789 valid responses. While the respondents included: (1) academic staff; (2) administration staff; and (3) service staff; as well as (4) secretariats. The study results showed that QCI is a reliable and valid instrument for measuring quality culture in organizations. Moreover, the results also empirically supported the association between the dimensions of quality culture and possible outcome measures.

However, there are some shortcomings of this study. First, this study focused primarily on developing a scale for quality culture. Second, the scope of the study was limited to just 3 universities in Germany. Third, the authors did not mention what sampling techniques were employed to collect data from respondents. Also, although the sample size was mentioned as 789, but it was mainly from a university (HEI-A). Furthermore, the overall response rate was calculated as 10%, which appears to be quite low given the generalizable potential of the study results. In conclusion, considering these shortcomings, more empirical studies are needed especially in third world countries to validate the instrument with a larger sample.

Second, Ali and Musah (2012) conducted a survey-based study to examine the relation among quality culture and workforce performance in the Malaysian HE sector. The findings revealed a significant association between quality culture and the performance of the workforce. However, there are few weaknesses in this study. First, the population of this study consisted only of academic staff from a single university (i.e., International Islamic University, Malaysia). Second, the study was based solely on the perception of academic staff. Lastly, the researchers adopted a convenience sampling technique for data collection that could involve sampling bias. In conclusion, given these shortcomings, a new study is needed in the context of HE in Pakistan with a larger population and sample size by introducing quality culture as a mediator and generalizing the results to other universities around the world.

Third, Katwalo and Asienga (2015) performed a study to investigate the influence of quality culture on performance of research institutions in Kenya. The study findings showed that there is a strong association amongst quality culture and the research

institutions' performance in Kenya. However, this study has a limited scope as it was conducted at only one research institution in Kenya. In conclusion, it is necessary to conduct a new study using quality culture as a mediator in the relationship with leadership styles, ACC, MOT, and HE performance in Pakistani universities, to increase the generalizability of the results to universities around the world.

On the contrary, there are a couple of qualitative studies in which researchers attempted to explore the quality culture in the context of HE. For instance, Rahnuma (2020) conducted a qualitative study to evaluate quality culture experiences as perceived by academic and administrative leaders of a private university in Bangladesh. The study aimed to gain a better understanding of current practices and what may need to be changed or developed to support quality culture in HEIs. The study identified five dimensions of quality culture based on interviewees' responses, including: (1) motivation and commitment of staff; (2) research and evaluation culture; (3) transparency issues during information exchange and knowledge of QA processes; (4) leadership effectiveness; and (5) focus on students. However, this study has some gaps. First, the study adopted a qualitative research design, so the study results cannot be generalized, unless or until its findings are empirically verified. Second, the study has population and sampling gaps, as the study was conducted at a single private university in Dhaka, Bangladesh, so it is necessary to replicate the results in other public and private sector universities. Third, only ten participants (six academics and four administrators) agreed to participate in the study. In addition, data were obtained through semi-structured interviews of the participants about their quality culture experiences. In conclusion, the results of this study should be empirically verified with

a quantitative survey approach in developing countries like Pakistan to increase the generalizability of the results.

Similarly, Moodley (2019) conducted a study to explore the degree to which QA has been integrated into 11 optometry education programs in six African countries (including South Africa, Mozambique, Malawi, Ghana, Tanzania and Ethiopia). The study adopted a qualitative research approach, and 11 academic leaders were purposively selected from optometry schools in these six countries. Participants were interviewed on core academic areas (including governance, recruitment, and selection, teaching and learning, curriculum design, staff development, research, community training, and student support) which can promote quality culture. This study highlighted the absence of quality audits and regulatory bodies resulting in a lack of quality culture in optometry programs. The author believes that schools should strive to create a quality culture, to produce competent and socially relevant graduates and impactful research. Finally, the study recommends collaboration between schools at various levels (national, regional, and global) to develop a culture of QA in all optometric programs in Sub-Saharan Africa. However, the study has certain practical and empirical gaps. First, this study has limited scope, as the participants were only from sub-Saharan countries. Second, the study used a qualitative research approach, while the sample size was limited to 11 participants who were purposively selected. Besides, the data were obtained from the participants through semi-structured interviews. Taking the above into account, the study results need to be verified through empirical research with a larger sample size and a broader scope that involves other parts of the countries and cultures.

2.6.2 Quality Culture as a Mediator

Numerous researchers have emphasized the substantial and positive influence of leadership styles on quality assurance practices, service excellence, and the cultivation of quality culture (Ali et al., 2015; Anwar, 2020; Atasoy, 2020; Herminingsih et al., 2020; Wijaya et al., 2019). Transformational leadership, closely associated with fostering a culture of innovation, collaboration, and continuous improvement, holds the potential to stimulate faculty and staff engagement, motivation, and commitment to quality-oriented initiatives. Notably, research has demonstrated that leaders embodying transformational leadership qualities significantly impact the development of quality culture within workplaces (Ali et al., 2015; Anwar, 2020). Conversely, transactional leadership, primarily reliant on reward and punishment mechanisms, can contribute to a strong quality culture by allocating resources for quality improvement initiatives. This viewpoint is corroborated by a handful of studies indicating a direct correlation between transactional leadership and QC within work environments (Ali et al., 2015; Anwar, 2020).

Furthermore, the accreditation process typically encourages institutions to adhere to certain quality standards and practices. These processes can stimulate the development of a quality culture through continuous self-assessment and improvement efforts. For example, accreditation is known for raising standards and academic quality by creating a culture of continuous improvement at colleges and universities (Hegji, 2020). Other studies have also found a positive impact of accreditation on quality culture in the university context (Sharma, 2018; Terra & Berssaneti, 2017).

Additionally, motivated faculty and staff are more likely to actively participate in quality enhancement initiatives, engage in professional development, and collaborate with colleagues. These behaviors are indicators of a strong quality culture. Motivation, when aligned with the institution's goals and values, can foster a culture where everyone is invested in maintaining and improving the quality of education and services. This is supported by a qualitative study in which a researcher concluded that "staff motivation and engagement" is one of the important dimensions of quality culture, which enables quality in universities (Rahnuma, 2020).

Besides, a positive quality culture can have a direct impact on higher education performance. When there is a shared commitment to quality across the institution, processes are more efficient, teaching and learning experiences are enhanced, and overall performance improves. Quality culture can create an environment where innovation, best practices, and student success are prioritized. Several studies have investigated the predicting effect of quality culture on organizational performance, and found a positive relationship between them (Ali & Musah, 2012; Hilman et al., 2017; Katwalo & Asienga, 2015; Rifa'i et al., 2018; Wu, 2015; Yusof & Ali, 2000).

These findings also suggest that quality culture might serve as a mediator, revealing hidden effects within these relationships. Unlike the limitations set by Baron and Kenny (1986), other researchers like Preacher and Hayes (2008) take a different approach by not imposing constraints on the direct effects of the independent variable on both the dependent and mediating variables, as well as the mediator's direct effect on the dependent variable. They argue that mediation fundamentally involves understanding

the intricate connection between independent and dependent variables through one or more mediating variables (Preacher & Hayes, 2008a).

Nonetheless, only a few studies have examined quality culture as a mediating variable (Abubakar & Hilman, 2017; Alotaibi et al., 2013; Alotaibi et al., 2016). The idea of selecting quality culture as a mediator was conceived and guided by a previous study (Al-Otaibi, 2015); one of the strategic resources to gain competitive advantage as proposed by the RBV theory; and the established role of quality culture in predicting organizational performance in all sectors (Ali & Musah, 2012; Hilman et al., 2017; Rifa'i et al., 2018; Ullah et al., 2016; Wu, 2015). The studies that examined the role of quality culture as a mediator have been critically reviewed below, along with their weaknesses and gaps.

Abubakar and Hilman (2017) performed a study on the mediating role of quality culture in the relation to dimensions of talent management and the organizational performance of universities listed in the QS ranking 2015. The results showed that the three dimensions of talent management (including talent attraction, development, and retention) and quality culture had a considerable positive effect on the performance of universities. Furthermore, quality culture was found to only mediate the relationship among talent retention, talent development, and performance.

Meanwhile, no mediating effect of quality culture was found in the relationship between talent attraction and performance. Since the study did not find conclusive evidence regarding the mediating role of quality culture, the researchers guided and recommended future researchers to further explore quality culture as a mediator in other

contexts as well. Also, descriptive statistics do not show whether Pakistani universities participated in this survey or not. Additionally, this study only attempted to investigate quality culture as a mediator in the relationship amongst talent management and university performance, future researchers may explore quality culture as a mediator with some new theoretical linkages. In conclusion, the role of quality culture as a mediator has not yet been sufficiently explored and, therefore, empirical evidence is lacking for the generalization of the results in other contexts.

Alotaibi et al. (2016) conducted a study to investigate the quality culture as a mediator in relation to QMPs and innovation performance. The study revealed a partial mediation effect of quality culture in relation to QMPs and innovation performance. However, there are some shortcomings in this study. First, this study was only limited to the healthcare sector (i.e., Saudi hospitals). Second, the respondents of this study were hospital directors only. Furthermore, the researchers did not provide any information about the sampling technique used in this study, while the sample size was also limited to 115 respondents. In conclusion, given these shortcomings, further research is needed to establish the role of quality culture as a mediator in different contexts.

Third, Alotaibi and Islam (2013) conducted a study to determine the relationships between TQM practices, quality culture, and contractor's competitiveness in Saudi Arabia. The survey results indicated that TQM practices made a significant contribution and were related to the competitiveness of contractors. However, this study has some serious gaps. Such as, this study did not provide any information about the population, the sampling technique, the sample size, and the instruments used to collect the data. Furthermore, a few inconsistencies were found in this study as well. For example, the

researcher mentioned investigating the mediating effect of quality culture, but no information was provided about it in the result, conclusion, or even abstract. Instead, it is written in the abstract as “quality is considered a positive moderate the relationship between total quality management practices and competitiveness”. To conclude, this study did not provide any conclusive evidence on the mediating effect of quality culture. Therefore, it is necessary to carry out a study in the context of HE, incorporating a quality culture as a mediator in future studies. Lastly, in a similar study carried out by Alotaibi et al. (2013), the study results revealed that quality culture play a mediating role in the association among TQM practices and competitiveness of Saudi Contractors.

In the past, several studies have examined the predicting effect of quality culture on organizational performance and consistently found a positive association between the two (Ali & Musah, 2012; Hilman et al., 2017; Katwalo & Asienga, 2015; Rifa'i et al., 2018; Wu, 2015; Yusof & Ali, 2000). These findings also suggest that quality culture might serve as a mediator, revealing hidden effects within these relationships. Unlike the limitations set by Baron and Kenny (1986), other researchers like Preacher and Hayes (2008) take a different approach by not imposing constraints on the direct effects of the independent variable on both the dependent and mediating variables, as well as the mediator's direct effect on the dependent variable. They argue that mediation fundamentally involves understanding the intricate connection between independent and dependent variables through one or more mediating variables (Preacher & Hayes, 2008a).

The existing literature has only scratched the surface of examining the role of quality culture as a mediator. These studies have investigated connections like the one between

talent management dimensions and university performance (Abubakar & Hilman, 2017), the relationship between quality management practices (QMP) and innovation performance in Saudi hospitals (Alotaibi et al., 2016), and the link between TQM practices and the competitiveness of Saudi contractors (Alotaibi et al., 2013). In these instances, the findings indicated examples of partial or complete mediation in the proposed relationships. However, due to the limited research in this field, there is inconclusive evidence about the consistent role of quality culture as a mediator across different situations like in higher education. Hence, it is of paramount importance to carry out further investigations on the concept of quality culture as a mediating variable, as underlined by specific researchers (Abubakar & Hilman, 2017; Al-Otaibi, 2015). Consequently, this study has examined the role of quality culture as a mediator in the linkage between leadership styles, accreditations, motivation, and higher education performance in the context of HE in Pakistan.

2.6.3 Measurement of Quality Culture

The precise meaning of quality culture lacks unanimous agreement in existing literature (Nygren-Landgärds et al., 2022), resulting in the absence of a universally accepted instrument for assessing quality culture within the higher education sphere. While certain scholars have developed instruments to measure quality culture (Ahmed & Nuland, 2016; Alotaibi et al., 2013; Jawad et al., 2015; Sattler et al., 2016; Wu et al., 2011), these instruments have not garnered significant attention among researchers. The scarcity of consensus regarding established instruments could stem from factors like limited awareness, methodological concerns (including validity, reliability, and adaptability across diverse settings), competing instruments, complexity and length, lack of adaptability, and limited empirical evidence.

Schein (2010) introduced a cultural framework consisting of three layers. The outermost layer encompasses tangible "artifacts," including elements like structure, technology, rules, appearance, records, design, and rituals. Moving inward, the second layer is labeled as "espoused values," encompassing a group's declared strategies, goals, and philosophies. Delving even deeper, the third tier is referred to as "underlying assumptions," representing implicit aspects composed of understood beliefs, perceptions, thoughts, and emotions that influence values and behaviors. Nonetheless, researchers contend that investigating the innermost layer (i.e., underlying assumptions) poses challenges because of its unobservable characteristics (Marcoulides & Heck, 1993). However, it can be indirectly deduced by examining external expressions like espoused values (Wu, 2015). In the current thesis, the author has utilized espoused values and beliefs to infer the core of the latent reflective concept of underlying quality culture.

Because there is no agreement on what defines a quality culture and its dimensions, and considering guidance from previous researchers (Alotaibi et al., 2013; Wu, 2015), the current study adapted Wu's (2015) instrument, which comprises four key components: the organizational philosophy of proactivity, continuous improvement, emphasis on student satisfaction, and cross-functional involvement in problem-solving. Wu's instrument was chosen due to its brevity compared to other longer versions (Ahmed & Nuland, 2016; Alotaibi et al., 2013; Jawad et al., 2015; Sattler et al., 2016; Wu et al., 2011), as well as its established reliability and validation in previous research studies (Abubakar & Hilman, 2017; Hilman et al., 2017; Wu, 2015).

2.7 Underpinning Theory

In quantitative studies, the researchers test the already established theories in a different and unique way to expand the current state of knowledge. Thus, the underpinning theories provide a foundation by supporting the proposed conceptual relationships. Given the scope and context of the current research, the researcher has considered the RBV theory as an underpinning theory supporting the proposed conceptual framework.

2.7.1 Resource-Based View (RBV) Theory

Several researchers in the field of strategic management have long been investigating the sources of sustainable competitive advantage and, in turn, superior performance (Barney, 1991; Porter, 1980; Wernerfelt, 1984). The main motivation for them was to identify the reason why some companies consistently outperform others (Barney & Arikan, 2006; Barney & Clark, 2007). Over the years, the researchers came up with different theoretical perspectives. For example, researchers argued that it is external forces that attract the industry/market and position firms within the market based on their profitability (Porter, 1980, 1985). While, others contend that it is internal strengths (in terms of capabilities) that determine firms' competitiveness, which in turn determine performance (Barney, 1991; Wernerfelt, 1984). The second perspective became popular as the RBV.

The roots of the RBV theory lie in studies previously conducted by several researchers. For instance, Penrose (1959) emphasized the important role of firms' internal resources, arguing that a firm's growth depends on its resources, but is limited by management resources. Later, other authors also supported the criticality of resources, either through resource management (Andrews, 1987), or by considering firms as bundles of resources

(Wernerfelt, 1984). But it was Jay Barney who elucidated the RBV by outlining its key characteristics that make it strategic (Chi, 1994), including: valuable, rare, inimitable and non-substitutable; and emphasizing their importance in helping companies achieve sustainable competitive advantage (Barney, 1991). However, the RBV theory received formal recognition when an article by Jay Barney was published in the *Journal of Management* (JOM) in 1991, which is regarded as a prominent perspective that has spurred progress towards this goal (Armstrong & Shimizu, 2007; Nason & Wiklund, 2018).

The RBV is a theory that considers resources as vital to exceptional firm performance. According to Barney (1991) these strategic resources should exhibit four attributes including: (1) value; (2) rareness; (3) inimitability; and (4) non-substitutability, to gain sustainable competitive advantage. But, the RBV theory relies on two assumptions: first, the firm's resources must be heterogeneous; and second, the heterogeneity of these resources must be immobile to realize a long-term competitive advantage (Barney, 1991). Simply put, the RBV theory is based on resources (tangible or intangible) that must be heterogeneous and immobile in nature, as well as be valuable, rare, difficult to imitate, and irreplaceable in order to have a sustainable competitive advantage. Barney (1991) classified organizational resources into three categories: (1) physical capital resources, such as plant and equipment, geographic location, and access to raw materials; (2) human capital resources, such as training, experience, judgment, intelligence, relationship and individual understanding of managers and employees; and (3) organizational capital resources, such as a formal reporting mechanism, planning, control and coordination systems, and informal relationships within groups, both internal and external.

2.7.2 Characteristics of RBV Resources

Despite the resources available to organizations, these can only be useful to gain a competitive advantage over others if they have Value, are Rare, are difficult to Imitate and are Non-substitutable (VRIN), as suggested by the RBV theory (Barney & Clark, 2007). This is also supported by Wiklund and Shepherd (2003) who argued that organizational capabilities are generally regarded as rare, valuable, unique and non-substitutable. Moreover, previous studies suggest that organizational capabilities are the main source of organizational performance in the field of management and the significant progress that has been made is in fact evidence of improvement in the performance of organizations (Drnevich & Kriauciunas, 2011). Besides, the use of RBV theory to examine organizational performance by researchers is another indicator of its validity. This is supported by Innocent (2015) who argued that RBV theory is still widely used in organizational performance research.

2.7.3 Relevance of RBV Theory to Present Research

This study addresses gaps in the extant literature and responds to the competitive landscape by utilizing the RBV theory as its foundation. The study examines how leadership styles, accreditation, motivation, and quality culture function as strategic resources within Pakistani universities, possessing qualities of value, rarity, inimitability, and non-substitutability. The main objective is to assess the relevance of the RBV theory within Pakistan's higher education sector and investigate whether leadership styles, accreditation, and motivation influence higher education performance with quality culture serving as an intermediary variable.

Aligned with the RBV theory, the author has investigated leadership styles (both transformational and transactional), accreditation, as well as motivation (intrinsic and extrinsic motivation), along with quality culture, as strategic resources for universities. These resources are perceived as essential in enhancing the quality of education, research, and services. By effectively utilizing these valuable resources, universities are expected to enhance their performance, thereby establishing a competitive edge over other institutions. The current study not only confirms the applicability of the RBV theory in the global higher education landscape but also offers empirical support for future researchers aiming to investigate its relevance within this field.

2.8 Research Framework

After the detailed review of the pertinent literature and formulated research questions (RQs), the following conceptual framework has been proposed underpinned by the theory of RBV. This framework consists of three independent variables, including: leadership styles, accreditation, and motivation; a mediating variable quality culture; and a dependent variable, higher education performance, with sub-dimensions: teaching performance, research performance and service performance. The conceptual framework proposed for this study is exhibited in Figure 2.1

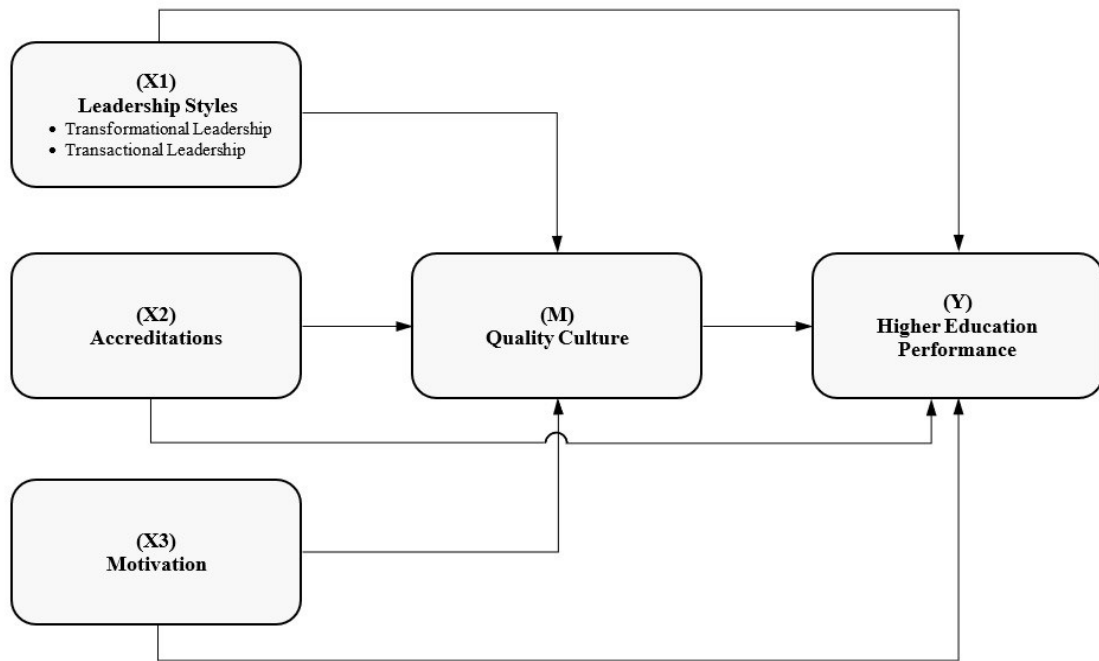


Figure 2.1

Conceptual Framework of the Study

Source: Developed by Researcher

2.9 Hypotheses Development

This study presents the relationship between leadership styles, accreditation, motivation, and higher education performance, with quality culture as a mediating variable. The hypotheses have been formulated based on the discussion and arguments presented in the literature review (Chapter 2). The proposed research hypotheses as shown in Figure 2.2 are given in the following sections.

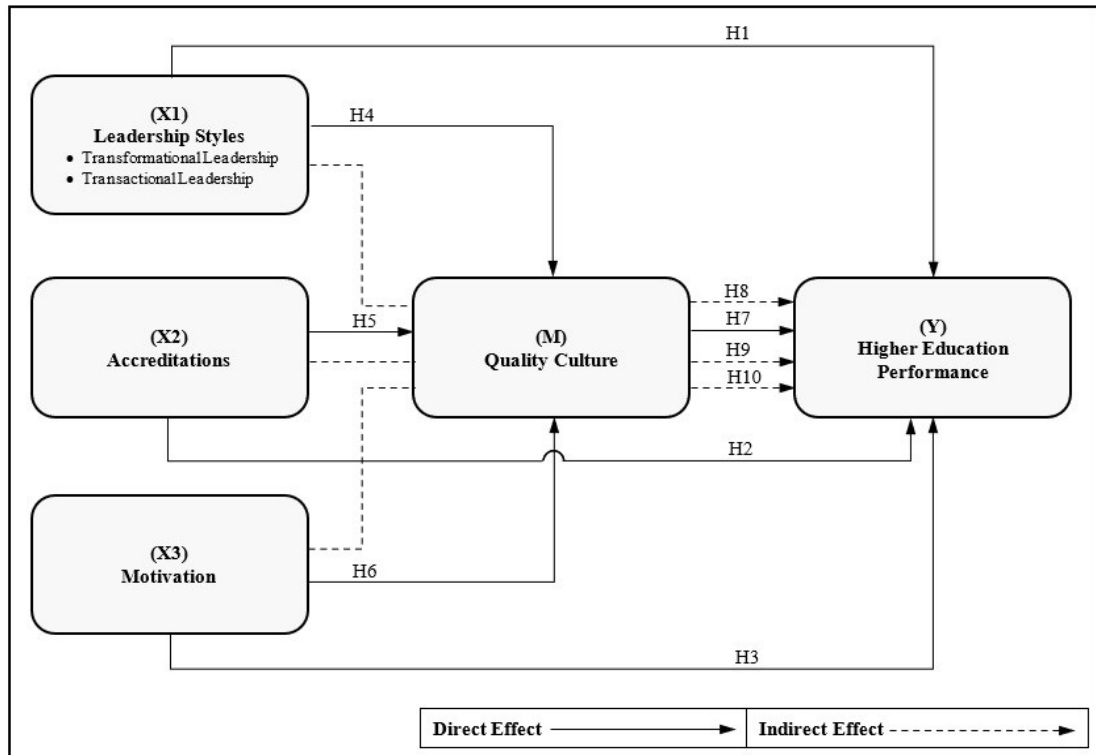


Figure 2.2

Schematic Diagram of Study Hypotheses

Source: Developed by Researcher

2.9.1 Leadership Styles and Higher Education Performance

Leadership styles play a dynamic role in the success or failure of any organization (Al-Khaled & Fenn, 2020), by motivating people and achieving organizational goals (Al Khajeh, 2018; Dewi & Wibowo, 2020). Despite different leadership styles, many researchers advocated the use of transformational and transactional leadership styles to have a significant positive effect on organizational performance (Al Khajeh, 2018; Asimwe et al., 2016; Israel, 2016; Khan et al., 2014; Mgeni & Nayak, 2016; Noruzy et al., 2013; Saad & Abbas, 2019; Saleh, Nusari, Habtoor, et al., 2018).

Some researchers believe that transformational leadership has a positive and considerable impact on the performance of the organization (Abubakar & Ahmed, 2017; Ahmad & Ejaz, 2019; Al Khajeh, 2018; Ali, 2019; Ohemeng et al., 2018; Saad & Abbas, 2019; Saleh, Nusari, Habtoor, et al., 2018). Meanwhile, some researchers believed that transactional leadership has a positive effect on the performance of the organization (Ahmad & Ejaz, 2019; Ali, 2019; Obiwuru et al., 2011; Ohemeng et al., 2018; Saleh, Nusari, Habtoor, et al., 2018). On the contrary, few researchers believed that transactional leadership has a negative relationship (Al Khajeh, 2018), and for some, there is no substantial effect on organizational performance (Ejere & Abasilim, 2013), and on the performance of employees (Veliu et al., 2017). Nevertheless, many researchers opined that both leadership styles have a significant positive effect on organizational performance (Ahmad & Ejaz, 2019; Saleh, Nusari, Habtoor, et al., 2018) and on job performance (Ohemeng et al., 2018). Therefore, there is a need for a balanced approach in both leadership styles for effective leadership practices in organizations (Baškarada et al., 2017). Considering the importance of both styles, leadership styles have been operationalized both in terms of transformational and transactional leadership, in this study. Based on above-mentioned literature, this study proposed following hypothesis:

H₁: *Leadership styles have a significant and positive relationship with higher education performance.*

2.9.2 Accreditation and Higher Education Performance

Accreditation, as part of the quality assurance mechanism, has a fundamental role in the development and growth of universities by improving the quality of academic programs and institutions. In the context of HE, each country has its own unique quality

assurance mechanism to improve the quality of education and hold universities accountable for the proper use of public funds. In Pakistan, HEC has established a comprehensive quality assurance framework, including self-assessment of academic programs (IQA) and accreditation (EQA) at the program and institutional level, while QAA monitors all quality-related activities to improve academic quality in HE (Batool & Qureshi, 2007). Accreditation is considered a vital component of EQA. As proposed by HEC, accreditation takes place at two levels: program level, which is conducted by accreditation councils; and institutional level carried out by HEC (Batool & Qureshi, 2007). Based on the literature and the scope of the study that is limited to accreditation practices (external evaluations) in Pakistani universities, this study proposed the following hypotheses:

H₂: *Accreditation has a significant and positive relationship with higher education performance.*

2.9.3 Motivation and Higher Education Performance

Faculty members play an indispensable role in HE. The motivation of university faculty is an overall process that leads faculty members to initiate, support and regulate goal-oriented behavior (Daumiller et al., 2020). It is argued that the low level of motivation and salary of faculty members can lead to poor academic quality and even corruption (Schomaker, 2015). Furthermore, Daumiller et al. (2020), have argued that rigorous research should be conducted due to several factors which are associated with faculty motivation and research performance. Similarly, Agah et al. (2020) performed a study in relation to research productivity and motivation in universities by analyzing the academic output of tenured and non-tenured faculty members. The findings revealed that overall tenured academic staff was more actively involved in producing scholarly

products than non-tenured academic staff. However, some researchers viewed faculty motivation as a tool to improve university ratings (Mynzhanova et al., 2018). Considering the above discussion, this study proposed the following hypotheses:

H₃: *Motivation has a significant and positive relationship with higher education performance.*

2.9.4 Leadership Styles and Quality Culture

Leadership styles play an important role in developing culture in organizations. Atasoy (2020) argued that leadership styles shape culture and that culture influences leaders. In other words, both have the potential to influence each other directly or indirectly. Anwar (2020) conducted a study to investigate the effect of transformational and transactional leadership styles on the quality of work culture in 14 NGOs operating in Pakistan. The results showed that, although both leadership styles have a significant relationship with a quality work culture, the impact of transformational leadership was greater than transactional leadership. However, given the different context and scope of the study (that is 14 NGOs), further empirical efforts are needed to generalize the results to a broader spectrum. In a similar study, the results revealed that transformational and transactional leadership styles have positive and significant relationship with quality work culture. However, the transactional leadership has greater effect on quality work culture than transformational leadership (Ali et al., 2015). Hence, the findings of both studies showed inconsistent results. Considering the above discussion, this study proposed the following hypotheses:

H₄: *Leadership styles have a significant and positive relationship with quality culture.*

2.9.5 Accreditation and Quality Culture

Accreditation is an important pillar of quality assurance framework in higher education. The accreditation is carried out to evaluate the quality of the academic programs in the HEIs (Hegji, 2020). According to the US Department of Education, one of the key functions of accreditation is to “create a culture of continuous improvement of academic quality at colleges and universities and stimulate a general raising of standards among educational institutions” (Hegji, 2020). However, there is little evidence from previous studies that have investigated accreditation in relation to quality culture. In another study, researcher evaluated NAAC assessment and accreditation practices in India and their potential role in developing a quality culture in Indian HEIs. The survey found that assessment and accreditation have developed the culture of quality; and created a positive view of quality improvement in universities, which also benefited other stakeholders (Sharma, 2018). Similarly, a researcher conducted a study to investigate the impact of accreditation on the quality culture in the Brazilian health system. The study found that hospital accreditation promoted processes, which in turn developed a culture of quality and thus increased patient satisfaction (Terra & Berssaneti, 2017). However, this was a qualitative study based on several case studies in the health sector and, due to a lack of empirical evidence, its results cannot be generalized in the context of higher education. Based on above-mentioned literature, this study proposed following hypothesis:

H₅: *Accreditation has a significant and positive relationship with quality culture.*

2.9.6 Motivation and Quality Culture

Rahnuma (2020) conducted a study to better understand the dynamics of quality culture emerging from the national quality framework. This was a qualitative study based on interviews with academic and administrative leaders at a private university in Bangladesh. The researcher found that "staff motivation and engagement" is one of the important dimensions of quality culture, which enables quality in Bangladesh University. George and Sabhapathy (2014) in their study sought to investigate the relationship between teacher motivation and the organizational culture of undergraduate universities in the city of Bangalore, India. The results found a positive relationship between teacher work motivation and organizational culture. However, the study did not examine the quality culture in relation to the work motivation of teachers, but rather the organizational culture. Furthermore, the study was limited to universities in one city, so the results cannot be generalized worldwide. Based on above-mentioned discussion, this study proposed the following hypothesis:

H₆: *Motivation has a significant and positive relationship with quality culture.*

2.9.7 Quality Culture and Higher Education Performance

Quality culture is generally known as attitudes and values that improve the level of quality of the organizational service (Al-Otaibi, 2015). According to Liu (2000), quality culture is simply puts quality first by employing quality standards, innovative improvement techniques, and the art of quality management, quality understanding and other spiritual and cultural events in the organization. Several studies have investigated the quality culture as an independent variable in relation to organizational performance,

and concluded a positive relationship between quality culture and performance (Ali & Musah, 2012; Katwalo & Asienga, 2015; Wu, 2015; Yusof & Ali, 2000).

Based on the discussion, this study proposed the following hypothesis:

H₇: *Quality culture has a significant and positive relationship with higher education performance.*

2.9.8 Mediating Effect of Quality Culture

Quality culture is a process of continuous improvement in which the entire organizational community is held responsible for maintaining a conducive work environment that leads to organizational excellence (Trewin, 2002). As already mentioned, there have been several studies involving quality culture as an independent variable, but few studies have attempted to investigate the role of quality culture as a mediator; and the results did not find conclusive evidence of its mediating effect (Abubakar & Hilman, 2017b; Alotaibi & Islam, 2013; Alotaibi et al., 2016). Based on the discussion given above, this study proposed the following hypotheses:

H₈: *Leadership styles have an indirect effect on higher education performance through quality culture.*

H₉: *Accreditation has an indirect effect on higher education performance through quality culture.*

H₁₀: *Motivation has an indirect effect on higher education performance through quality culture.*

2.10 Operational Definitions

2.10.1 Higher Education Performance

Kivistö et al. (2019) has defined organizational performance in HE as “all actions, tasks and processes carried out in HEIs (teaching, research, and third mission activities), as well as outputs and outcomes resulting from these actions”. The researcher has operationalized the definition with slight modifications. The performance of HE includes the effectiveness of all actions and tasks related to processes such as teaching, research and the quality of all services provided in universities to achieve the desired results.

2.10.2 Teaching Performance

Teaching performance means fostering a deep approach to student learning and focusing on higher-level thinking, such as analyzing and combining information and ideas differently through the use of evidence (Postareff et al., 2008). However, for the purpose of this study, the researcher operationalized teaching performance in terms of how satisfied students, faculty, and academic managers are in meeting students' needs and advancing their knowledge, and skills.

2.10.3 Research Performance

Research performance is a performance that allows the knowledge acquired through research and transfers it to others (Bazeley, 2010). The researcher has operationalized the research performance in terms of the institute's ability to obtain grants to achieve the research objectives in a timely manner by involving faculty, students, and industry experts in the publication of research with impact on society.

2.10.4 Service Performance

The comprehensive evaluation of a service by a customer or other interested parties to determine whether the service meets or exceeds expectations (Eshghi et al., 2008). Given the above definition of service, the researcher operationalized service performance from two perspectives: internal customers (faculty members, support staff); and external customers (students).

2.10.5 Leadership Styles

“Leadership style is the way leaders direct and motivate people to achieve organizational goals” (Al Khajeh, 2018). In this study, leadership styles have been operationalized in terms of transformational leadership and transactional leadership behaviors, through which university leaders motivate and direct staff at all levels to drive positive change and improved performance.

2.10.6 Transactional Leadership

According to Bass, (1990b) “The transactional leadership style uses reward powers to get the job done. Rewards include recognition and fulfillment of employee promises, salary increases and opportunities for career development” (Bass, 1990b). The researcher has operationalized transactional leadership in terms of contingent reward and punishment behavior. If the subordinates (employees) perform well, they can be valued in terms of incentive, positive feedback, and recognition, while in poor performance, the reward can be in terms of punishment or disapproval.

2.10.7 Transformational Leadership

“Transformational leadership refers to the leader’s behavior, influential traits, power, and contextual variables, which affect employee performance in a positive direction, for example, motivating employees to work willingly beyond expectations”. (Behery & Paton, 2008). This study has operationalized transformational leadership in terms of vision, staff development, supportive leadership, empowerment, innovative thinking, leading by example, and charisma.

2.10.8 Accreditation

Accreditation refers to the systematic procedure through which a governmental, non-governmental, or private body assesses the overall quality of a higher education institution or a particular educational program. The aim is to officially acknowledge and validate that the institution or program has successfully fulfilled specific predetermined criteria or standards (Vlăsceanu et al., 2007). In this study, the researcher has operationalized accreditation through external evaluation practices that involve interactions with experts to obtain their feedback, promote restructuring activities, strengthen teamwork, identify weaknesses in the system for solutions, and improve the reliability of the university.

2.10.9 Motivation

Motivation is an overall process that leads faculty members to initiate, support, and regulate goal-oriented behavior (Daumiller et al., 2020). In this study, the researcher has operationalized motivation from the perspective of both intrinsic and extrinsic motivation.

2.10.10 Quality Culture

Ali and Musah (2012) defined quality culture as “the overall attitude of an institution, which focuses on the concept of quality and applies it to all aspects of its activities”. For this study, the researcher has operationalized the quality culture as a subset of organizational culture that focuses on anticipating and meeting student needs, emphasizing student satisfaction, fostering continuous improvement, and utilizing cross-functional teams to ensure institutional survival and growth.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

In the previous chapter, the researcher attempted to identify certain theoretical, practical, and empirical gaps undermining the performance of HEIs in Pakistan by critically evaluating the existing literature. The variables examined solely through a theoretical lens included: (1) leadership styles; (2) accreditation; (3) motivation; (4) quality culture; and (5) higher education performance, such as teaching performance, research performance and service performance. This chapter begins with a discussion of the research framework, hypotheses development, and research design, followed by the measurements of different variables used for this study. This chapter also discusses the sampling process and data collection techniques, along with their rationale. Finally, the statistical approaches to be used to analyze different types of data have also been discussed.

3.2 Research Design

Research design is a critical component of any research endeavor. A research design is an overall strategy or plan for conducting a research by describing the basic structure and objectives of the research (Mills & Gay, 2019). Similarly, according to Creswell (2014) “research design are types of inquiry within qualitative, quantitative, and mixed methods approaches that provides specific direction for procedures in a research design”. Reasoning is a popular way to know something or understand the world. For instance, Mills and Gay (2019) argued that reasoning is a process of using logical thoughts to reach a conclusion, either by inductive reasoning (to add something new to the current

state of knowledge) or deductive reasoning (to test already established theories). According to (Bryman, 2012), both approaches are equally important.

This study adopts a quantitative, non-experimental, and survey-based cross-sectional research methodology to examine the relationship between leadership styles, accreditation, motivation, and higher education performance, with the quality culture as the mediating variable. According to Mertens (2015), the quantitative design is a deductive method in which numerical data are collected through reliable and validated scales to test theories and hypotheses and investigate the statistical associations among variables. This study is based on a cross-sectional survey approach and data is collected through online surveys and in-person (paper) questionnaires. The researchers argued that a survey-based design is highly effective and has many advantages, including: surveys are efficient and can cover geographically dispersed samples; surveys have an ethical advantage because they do not expose people to potentially invasive techniques and can therefore be considered more ethical; and finally, the research design implies economy and fast response time in data collection (Creswell, 2014; Fowler, 2014). Finally, as compared with longitudinal research method, the cross-sectional method is most suitable for collecting data at a certain point in time (Sekaran & Bougie, 2016), since it reduce time, cost and effort.

3.3 Measurement Scale

This research encompassed five underlying variables: leadership styles (including transformational and transactional leadership), accreditations, motivation (both intrinsic and extrinsic), quality culture, and higher education performance (encompassing teaching, research, and service performance). Altogether, there were

nine distinct constructs, with the measurement scale for each construct derived from existing scholarly sources. The following section provides a comprehensive breakdown of each measurement scale, along with the rationale behind their selection.

Commencing with leadership style, this study investigated two latent constructs: transformational leadership and transactional leadership. Transformational leadership was measured using a short scale that incorporated seven items from previous research (Carless et al., 2000). Correspondingly, transactional leadership encompassed four items each for reward behavior and punishment behavior, adapted from prior research (MacKenzie et al., 2001; Podsakoff et al., 1984).

In the same vein, the measurement of accreditation was based on a set of five items previously developed in the context of higher education (Seema et al., 2017). Similarly, motivation was assessed through the utilization of two scales: IMOT and EMOT. Each scale consisted of nine items, having been developed by past researchers (Cruz et al., 2009; Hung, 2020; Mertler, 2001).

Conversely, the measurement of quality culture entailed the adaptation of Wu (2015) instrument, encompassing four pivotal components: proactive organizational philosophy, continuous improvement, emphasis on student satisfaction, and cross-functional involvement in problem-solving. The selection of Wu's instrument was based on its brevity relative to more extensive versions and its established reliability and validation in prior research studies (Abubakar & Hilman, 2017b; Ahmed & Nuland, 2016; Alotaibi et al., 2013; Hilman et al., 2017; Jawad et al., 2015; Sattler et al., 2016; Wu, 2015; Wu et al., 2011).

Lastly, the dimension of higher education performance comprised three constructs: teaching performance, incorporating five items adapted from earlier research (Dicker et al., 2019; Goos & Salomons, 2017); research performance, measured using five items (Yaakub & Mohamed, 2020); and service performance, measured through the adaptation of 15 items from previous studies (Asif et al., 2013; Asif & Searcy, 2014; Badri & Abdulla, 2004; Hui et al., 2003; Nedwek & Neal, 1994).

The questionnaire for this study consists of six sections (A – F), and in total there are seventy-six (76) items, nine (09) items are of a demographic nature, while sixty-seven (67) items are related to all the latent variables. The items related to each variable are adapted from established scales used by different authors in the previous literature. The breakdown of each section is given below:

Section (A): In this section, nine questions address respondent demographics, including university name, province, university sector, faculty/department name, respondent name (optional), respondent gender, respondent age, respondent qualification, and respondent designation/ position.

Section (B): In this section, there are fifteen (15) items in total, seven items for transformational leadership style (See Table 3.1), and eight items for transactional leadership style (See Table 3.2).

Section (C): This section comprises of five items to measure accreditation practices in higher education context (See Table 3.3).

Section (D): In this section there are eighteen (18) items in total, nine items for intrinsic motivation (See Table 3.4), and nine items for extrinsic motivation (See Table 3.5).

Section (E): In this section, quality culture is measured through four items (See Table 3.6).

Section (F): In this section, there are a total of twenty-five (25) items to measure higher education performance including five items for teaching performance (See Table 3.7), five items of research performance (See Table 3.8), and fifteen items of service performance (See Table 3.9).

Table 3.1

Scale for Transformational Leadership Style (TFL)

Code	Items	Source
TFL1	Our university leader communicates a clear and positive vision of the future.	Carless et al. (2000)
TFL2	Our university leader treats staff as individuals, supports and encourages their development.	Carless et al. (2000)
TFL3	Our university leader gives encouragement and recognition to staff.	Carless et al. (2000)
TFL4	Our university leader fosters trust, involvement, and cooperation among team members.	Carless et al. (2000)
TFL5	Our university leader encourages thinking about problems in new ways and questions assumptions.	Carless et al. (2000)
TFL6	Our university leader is clear about his/her values and practices what he/she preaches.	Carless et al. (2000)
TFL7	Our university leader instills pride and respect in others and inspires them by being highly competent.	Carless et al. (2000)

Table 3.2*Scale for Transactional Leadership Styles (TNL)*

Code	Items	Source
TNL1	Our university leader always gives staff members positive feedback when they perform well.	(MacKenzie et al., 2001; Podsakoff et al., 1984)
TNL2	Our university leader gives staff members special recognition when they produce at a high level.	(MacKenzie et al., 2001; Podsakoff et al., 1984)
TNL3	Our university leader commends staff members when they exceed their productivity goals.	(MacKenzie et al., 2001; Podsakoff et al., 1984)
TNL4	Our university leader frequently acknowledges staff members good performance.	(MacKenzie et al., 2001; Podsakoff et al., 1984)
TNL5	Our university leader indicates his/her disapproval if staff members perform at a low level.	(MacKenzie et al., 2001; Podsakoff et al., 1984)
TNL6	Our university leader lets staff members know about it when they perform poorly.	(MacKenzie et al., 2001; Podsakoff et al., 1984)
TNL7	Our university leader criticizes staff members if their work is below standard.	(MacKenzie et al., 2001; Podsakoff et al., 1984)
TNL8	Our university leader points it out to staff members when their productivity is below average.	(MacKenzie et al., 2001; Podsakoff et al., 1984)

Table 3.3*Scale for Accreditation (ACC)*

Code	Items	Source
ACC1	Accreditation provides a good opportunity to our university to share experiences with experts and to get useful feedback from them.	Seema et al. (2017)
ACC2	Accreditation encourages restructuring and/or other developmental activities at our university.	Seema et al. (2017)
ACC3	Accreditation strengthens teamwork within our university.	Seema et al. (2017)
ACC4	Accreditation helps to raise awareness of the weaknesses in the system and to find solutions at our university.	Seema et al. (2017)
ACC5	Accreditation enhances the reliability of our university.	Seema et al. (2017)

Table 3.4*Scale for Intrinsic Motivation (IMOT)*

Code	Items	Source
IMOT1	The faculty members in our university are happy with assigned responsibilities (e.g., autonomy, authority, and responsibility for own work).	Hung (2020) Mertler (2001)
IMOT2	The faculty members in our university enjoy sense of achievement (e.g., experiencing success).	Hung (2020) Mertler (2001)
IMOT3	The faculty members in our university appreciate the potential for their professional growth (e.g., possibility of improving one's own professional skills)	Hung (2020) Mertler (2001)
IMOT4	The faculty members in our university gain due recognition from stakeholders (e.g., receiving praise from administrators, parents, students, or others)	Hung (2020) Mertler (2001)
IMOT5	The faculty members in our university are satisfied with the potential for advancement (e.g., possibility of assuming different positions in the profession).	Hung (2020) Mertler (2001)
IMOT6	The activities of faculty members in our university let them improve as a person, enhance their self-confidence, maturity, and self-accomplishment.	Cruz et al. (2009)
IMOT7	Our university faculty members have autonomy in their job, and they can contribute with their ideas.	Cruz et al. (2009)
IMOT8	Our faculty members consider this university honest and coherent with its mission	Cruz et al. (2009)
IMOT9	Our faculty members have a sense of belonging to their university.	Cruz et al. (2009)

Table 3.5*Scale for Extrinsic Motivation (EMOT)*

Code	Items	Source
EMOT1	The faculty members in our university receive a lucrative salary (e.g., financial compensation).	Hung (2020) Mertler (2001)
EMOT2	The faculty members in our university have job security and stability (e.g., tenure).	Hung (2020) Mertler (2001)
EMOT3	The faculty members in our university have favorable working conditions (e.g., building conditions, amount of work, facilities available).	Hung (2020) Mertler (2001)
EMOT4	The faculty members in our university have good interpersonal relationships with students (e.g., interaction with students).	Hung (2020) Mertler (2001)
EMOT5	The faculty members in our university are satisfied with the status granted (e.g., professional status of teaching).	Hung (2020) Mertler (2001)
EMOT6	Our university faculty members receive a fixed salary (base salary, complements, etc.) for their activities in the university.	Cruz et al. (2009)
EMOT7	Our university expressly (clearly) recognizes the job of faculty members (through rewards, mentions in the university's magazine, intranet, advertisement board, etc.).	Cruz et al. (2009)
EMOT8	Our university offers faculty members the possibility of promotion.	Cruz et al. (2009)
EMOT9	Our university offers faculty members stability and continuity in their job.	Cruz et al. (2009)

Table 3.6*Scale for Quality Culture (QC)*

Code	Items	Source
QC1	Our university is proactive in anticipating students' needs.	Wu (2015)
QC2	Our university believes that student satisfaction is critical for university's survival.	Wu (2015)
QC3	Our university believes that continuous improvement is critical for university's survival and growth.	Wu (2015)
QC4	Our university uses cross-functional teams to find better solutions.	Wu (2015)

Table 3.7*Scale for Teaching Performance (TP)*

Code	Items	Source
TP1	The faculty members of our university communicate clearly about practical matters and course organization.	Goos and Salomons (2017)
TP2	The faculty members of our university make it clear what knowledge and skills students acquire to pass their courses.	Goos and Salomons (2017)
TP3	The faculty members of our university use a variety of teaching methods to help students learn.	Dicker et al. (2018)
TP4	The study material (slides, notes, books, etc.) helps students to understand the course material.	Goos and Salomons (2017)
TP5	The feedback and assignments from the faculty members help students to do better.	Dicker et al. (2018)

Table 3.8*Scale for Research Performance (RP)*

Code	Items	Source
RP1	Over the past three years, our university has increased its ability to obtain research grants.	Yaakub and Mohamed (2020)
RP2	Over the past three years, our university has increased its ability to complete research on time as planned	Yaakub and Mohamed (2020)
RP3	Over the past three years, our university has increased its ability to produce research that meet objectives respectively	Yaakub and Mohamed (2020)
RP4	Over the past three years, our university has increased its ability to involve students in research works	Yaakub and Mohamed (2020)
RP5	Over the past three years, our university has increased its ability to produce impactful research that attracts citations	Yaakub and Mohamed (2020)

Table 3.9*Scale for Service Performance (SP)*

Code	Items	Source
SP1	The faculty members of our university are involved in designing new academic programs.	(Asif et al., 2013; Asif and Searcy, 2014)
SP2	The faculty members of our university participate in curriculum development.	(Asif et al., 2013; Asif and Searcy, 2014)
SP3	The faculty members of our university participate in academic committees (e.g., departmental, advisory, budget, hiring and recruitment).	Asif and Searcy (2014)
SP4	Our university staff responds immediately to colleagues' urgent requests.	Hui et al. (2003)
SP5	Our university staff voluntarily assists staff members from other departments.	Hui et al. (2003)
SP6	Our university staff assists new staff members in work-related tasks and operations.	Hui et al. (2003)
SP7	Our university staff resolves conflicts among staff members.	Hui et al. (2003)
SP8	Our university staff assists colleagues when they encounter job difficulties.	Hui et al. (2003)
SP9	The faculty members of our university are engaged in students counselling.	Nedwek and Neal (1994), Asif and Searcy (2014)
SP10	The faculty members of our university are engaged in community service (e.g., providing field/discipline-related consulting service to third parties).	Badri and Abdulla (2004), Nedwek and Neal (1994), Asif and Searcy (2014)
SP11	Our university staff willingly listens to students' request.	Hui et al. (2003)
SP12	Our university staff responds to students' requests that go beyond what was promised.	Hui et al. (2003)
SP13	Our university staff provides standardized (uniform) service to students.	Hui et al. (2003)
SP14	Our university staff provides unique services compared to other universities.	Hui et al. (2003)
SP15	Our university staff stays late to provide service.	Hui et al. (2003)

3.6 Population and Sampling

3.6.1 Population of Study

According to Sekaran and Bougie (2016), population refers to the any group of individuals, events, or entities that the researcher intends to examine. In this context, the study population was made up of 226 universities from both the public and private sectors, as of February 2021 (HEC, 2021c). These universities were spread across all seven provinces/administrative units of Pakistan and were officially recognized by the HEC of Pakistan. Detailed information on the distribution of universities within these provinces/administrative units is found in Table 3.11.

3.6.2 Sample Size

According to Sekaran and Bougie (2016), sample is known as “a subset or subgroup of the population”. While on the other hand “sample size is the actual number of subjects chosen as a sample to represent the population characteristics” (Sekaran & Bougie, 2016). The sample size for this study was determined using two methods. Initially, a sample size of 144 universities was calculated from a total of 226 universities, as per the sample table provided by Krejcie and Morgan (1970). Secondly, the researcher conducted a power analysis to ascertain both the sample size and the likelihood of achieving statistically significant results. The power analysis was performed using G*Power software to determine sample size using input parameters such as moderate effect size (0.15), alpha error probability (0.05), power (0.80), and predictors (4), as depicted in Figure 3.1. The output parameters of the software showed that 85 universities are a sufficient sample size for the present study.

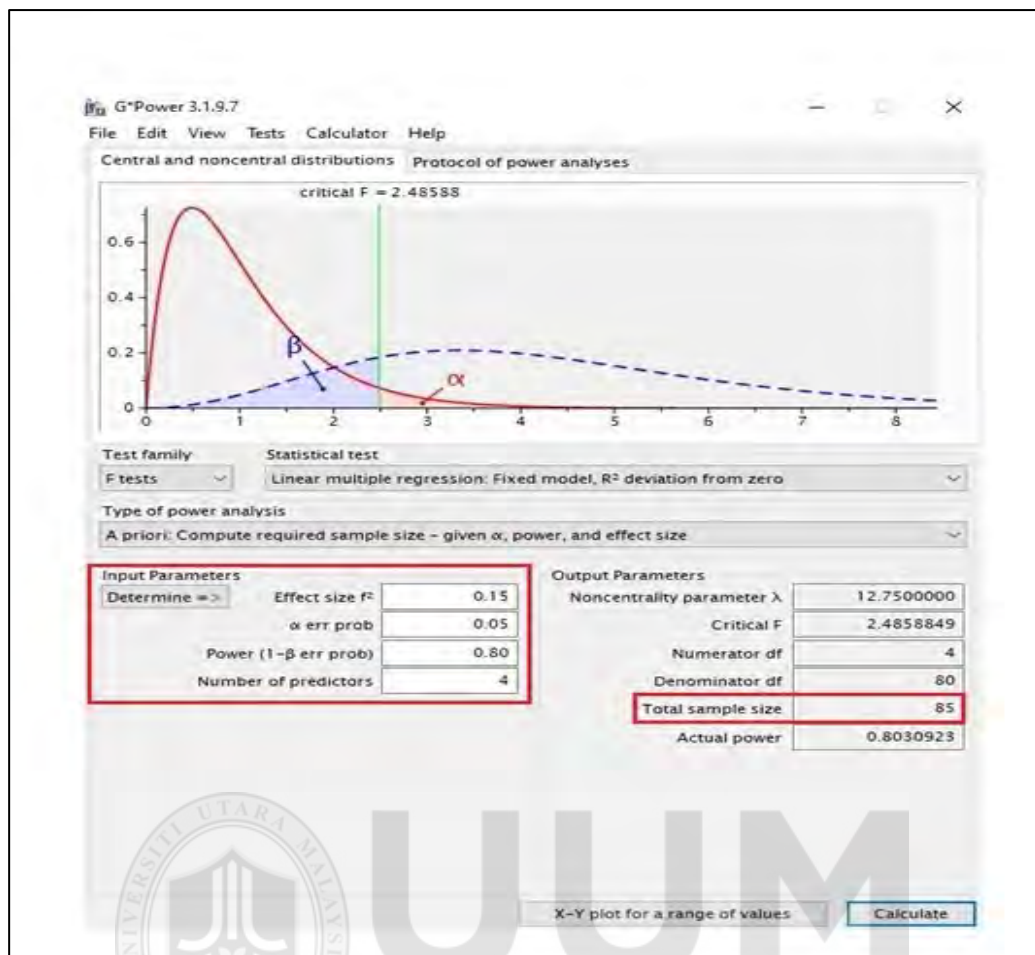


Figure 3.1
Sample Size Recommendation by G-Power

Power analysis stands as a vital instrument employed when designing studies (Perugini et al., 2018). It computes the power or probability of an experiment generating statistically significant findings and ensuring that the observed procedure upholds a satisfactory standard of quality (Ksenija & Berislav, 2013). Power analysis requires an understanding of three key factors. First, the alpha level represents the acceptable probability of identifying the observed effect even though no true effect exists (essentially the risk of a Type I error). While it is common practice to set alpha to 0.05, flexibility is recommended (Lakens et al., 2018). Second, we need to understand the desired power of the test, the likelihood of detecting the actual effect (to avoid Type II

errors). A minimum power of 0.8 is often used (Cohen, 1988). Finally, the expected effect size or minimum detectable effect of the test must be known. With these three factors in place, we can use statistical tools such as G*Power (Erdfelder et al., 1996; Faul et al., 2009) to calculate the necessary sample size.

In summary, the initial estimate suggested 144 universities for the sample size (Krejcie & Morgan, 1970), but a power analysis using G*Power software recommended 85 universities. Considering both calculations, a sample size of 85 or more was deemed adequate for drawing meaningful conclusions from the study's findings.

3.6.3 Sampling Frame

The list of recognized universities, comprising 226 institutions as of February 2021 (HEC, 2021c), is used as the sampling frame for determining the sample size in this study. Details on university distribution across Pakistan's seven provinces and administrative units are presented in Table 3.10.

Table 3.10

HEC Recognized HEIs and DAIs in Pakistan

Provinces/Administrative Units	Number of HEIs/DAIs
Azad Jammu Kashmir (AJK)	7
Balochistan	10
Gilgit Baltistan (GB)	2
Islamabad (Capital)	23
Khyber Pakhtunkhwa (KPK)	42
Punjab	78
Sindh	64
Total	226

Source: HEC, Pakistan (as of February 2021)

3.6.4 Sampling Technique

Sampling is a “process of selecting items from the population so that the sample characteristics can be generalized to the population” (Sekaran & Bougie, 2016). The decision regarding adoption of sampling technique relies on many factors. The selection of sampling technique depends on cost, time and the desired level of accuracy (Bryman, 2012; Neuman, 2007). The researcher has used a proportionate stratified random sampling technique as it provides a better representation of the population in the four provinces and three administrative units of Pakistan, while the organization (universities) is the unit of analysis in this study. In stratified sampling, the target population is first divided into mutually exclusive homogeneous segments called strata, and then a simple random sample is drawn from each stratum (Daniel, 2012; Sheppard, 2021). Stratified sampling is generally preferred in large-scale surveys because of its various benefits, including estimation of subpopulations, administrative convenience, sample representativeness, efficiency, and improved data quality (Arnab, 2017). The researchers also found that stratified sampling is a highly precise and cost-effective technique that allows researchers to collect data from subgroups (Lynn, 2019). The selection of universities in this study was made proportionally from each stratum using the lottery method. Several authors have recommended the use of lottery method by assigning a unique number to each unit of the population for random selection (Iqbal et al., 2020; Kumar et al., 2013). The sampling details for this study are illustrated in Table

3.11

Table 3.11*Sample Size Details - Stratified Random Sampling*

Provinces/ Administrative Units	Total Number of HEIs	Percentage of Total HEIs (%)	Sample Size for Each Strata
Azad Jammu Kashmir (AJK)	7	3	4
Balochistan	10	4	6
Gilgit Baltistan (GB)	2	1	1
Islamabad (Capital)	23	10	15
Khyber Pakhtunkhwa (KPK)	42	19	27
Punjab	78	35	50
Sindh	64	28	41
Total	226	100	144

3.6.5 Unit of Analysis

The unit of analysis is defined as the person, group or object that is under investigation and may include individuals, groups, organizations, countries, technologies and objects (Bhattacharjee, 2021). The unit of analysis in this study is organizations (institutions), while the administrative managers (including VCs, Deans, Directors, and HODs) are the respondents in this study. Several researchers have selected administrative managers (such as Deans, Directors, and HODs) as respondents to measure organizational performance in HEIs of Pakistan (Alvi et al., 2021; Alvi & Rana, 2019). The reason for selecting the administrative managers is obvious since they are qualified, and experienced people with responsibilities to improve academic quality and performance at the departmental and institutional levels. Additionally, by virtue of their managerial positions, managers such as Deans, Directors, and HODs are in constant touch with all major stakeholders, including support staff, faculty members, and students in their respective departments and universities. Researchers have also argued

that quality management practices are primarily implemented at the departmental level, and their effect is also strong at department level (Flynn et al., 1995). Besides, there are several studies that have advocated the important role of administrative managers/staff (Iqbal et al., 2019; Ngoc-Tan & Gregar, 2019), as part of the management (Alaarj et al., 2016; Gold et al., 2001; Mills & Smith, 2011).

3.7 Instrument Pre-Testing

For the present study, a survey instrument was developed adapting the previously established scales and/or their items to achieve the research objectives. Therefore, the researcher decided to pre-test the survey instrument on a small sample of respondents before conducting a large-scale survey. The goal was to refine the survey instrument and identify potential problems such as unclear wording or delays in completing the questionnaire. According to Sekaran and Bougie (2016), the pretest involves using a limited respondents to test the suitability of the questions and their understanding. They further argued that pretesting also helps to resolve any imperfections before administering the scale to respondents, either orally or via questionnaire, thereby reducing biases (Sekaran & Bougie, 2016). Pre-testing the research instrument helps to: (1) identify ways to increase participant interest, (2) increase the likelihood that participants will remain engaged during the survey, (3) highlight issues such as wording of items and their sequence, (4) uncover items that require researcher training, and (5) explore ways to improve the overall quality of research data (Cooper & Schindler, 2014).

In this study, the initial instrument was pre-tested with six experts, two were senior academics and three were directors of QEC at leading universities in Pakistan. On the

other hand, one was a prominent quality management expert (practitioner) with over 30 years of experience in implementing TQM tools in various industries in Pakistan. Considering their comments and suggestions, appropriate changes were made (such as changing the polarity from negative to positive and rephrasing the items) to improve the readability, clarity, and completeness of the survey instrument. The revised survey instrument was then shared with both supervisors to seek their permission for a pilot study.

3.8 Pilot Test

In addition to pre-testing, a pilot study was also carried out to further refine the survey instrument and detect potential weaknesses prior to a full-scale study. According to Cooper and Schindler (2014), “a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample”. Pilot testing enables researchers to evaluate various aspects, such as feasibility, duration, and cost, to improve study design before conducting a large-scale study. A pilot study is like a dress rehearsal or a small-scale trial of a study conducted before the large-scale study (Mills & Gay, 2019).

The researcher carried out the pilot study to check the feasibility of the study, determine the reliability of the different constructs and/or get an idea of the final sample size. The data collected in the pilot test used a similar approach to that used for the actual large-scale study. There is no consensus on the number of participants who completed the questionnaire during the pilot study. For some, five to ten people are enough (Mills & Gay, 2019), while for others, a general rule of thumb is to pilot-test with 30 to 100 participants (Ruel et al., 2016). In the present study, data was collected from 30

respondents (administrative managers) from various Pakistani universities. The results of the pilot study showed that Cronbach's alpha values for all constructs were greater than 0.70, demonstrating that the instructions for the respondents were clear and that the design and sequence of the research instrument were also acceptable. Sekaran and Bougie (2016) argued that “the reliability of a measure indicates the extent to which it is without bias (error free) and hence ensures consistent measurement across time and across the various items in the instrument”. The reliability results for all constructs (after the pilot study) were then shared with both supervisors and, after obtaining their consent, a large-scale study was initiated. Cronbach's alpha coefficient values for all variables and constructs are presented in Table 3.12.

Table 3.12

Cronbach's Alpha Coefficient of the Variables/Constructs (Pilot Study)

Variable	Constructs	Cronbach's Alpha	No. of Items
Leadership Styles	Transformational Leadership	.950	7
	Transactional Leadership	.804	8
Accreditation	Accreditation	.973	5
Motivation	Intrinsic Motivation	.939	9
	Extrinsic Motivation	.911	9
Quality Culture	Quality Culture	.842	4
Higher Education Performance	Teaching Performance	.914	5
	Research Performance	.920	5
	Service Performance	.909	15

3.9 Data Collection Methods and Procedures

A survey-based quantitative research approach is adopted in this study to achieve the research aims and objectives and to test the study hypotheses. In this regard, permission was sought from the postgraduate studies unit of the UUM for data collection and

research work (Appendix E). The current study used the questionnaire (Appendix F) for data collection purposes. The researchers argued that the questionnaire survey is an important means of data collection in quantitative research (Cooper & Schindler, 2014). The questionnaire consists of two parts, the first part contained nine (09) demographic questions, while the second part consisted of sixty-seven (67) items/ questions to measure the study variables on a 5-point Likert scale.

Data were collected using a proportionate stratified random sampling technique from public and private sector universities located in four provinces and three administrative units across Pakistan. For this purpose, the entire population (universities) was divided into seven strata, based on four provinces (including Balochistan, KPK, Punjab and Sindh) and three administrative units (including Azad Kashmir, Gilgit Baltistan and Islamabad) of Pakistan.

The researcher employed two data collection strategies in this study, the goal being to obtain maximum responses given that the study population is spread across Pakistan. First, an online survey or web-based questionnaire (WBS) technique was adopted in this study, considering its cost-effectiveness and ability to reach the maximum number of respondents in distant areas. The online questionnaire was developed using Google Forms based on a 5-point Likert scale. The advantage of Google Forms is that all responses are automatically saved to Google Drive when respondents submit them, and online questionnaires are also cost-effective. Second, the researcher has also used paper-based questionnaires to collect data from universities in nearby areas of central Punjab. In this regard, the researcher visited universities of nearby areas and administered questionnaires in-person at randomly selected universities. The survey

respondents were senior administrative managers from randomly selected private and public sector universities in Pakistan, while survey items were in English. Since the administrative managers are highly qualified, experienced, and fluent in English, it was not a problem for them to understand the survey items. Also, English language is a formal mode of study in university education in Pakistan.

3.10 Data Analysis

There are a wide variety of tools and software available these days to perform different statistical tests based on the type of research and the research questions. According to Tabachnick and Fidell (2007), Structure Equation Modeling (SEM) is a combination of statistical methods that allows selecting a set of relationships between independent variables (exogenous variables) and dependent variables (endogenous variables). These variables can be analyzed as factors and variables, the SEM also provides a reasonable fit to the data and the amount of the contribution of the independent variables (IV), the dependent variable (DV), and Mediator. In the present study, the researcher used SPSS (version-25) for preliminary analysis, and Partial Least Squares Structural Equation Modeling (PLS-SEM) software for advanced level analysis including the evaluation of measurement models and structural models. Initially, data screening and cleaning has been performed to identify missing data and outliers, as well as non-response bias and common method bias. Subsequently, the evaluation of the measurement models for the reflective measures has been carried out, followed by the evaluation of the structural model to test the relationships between the exogenous variables and the endogenous variables. The results of the analysis have been presented under the following headings.

3.10.1 Data Screening

Data screening stands as an essential stage within the data analysis process, encompassing a systematic evaluation and readiness of the dataset before embarking on statistical analyses. Pallant (2016) endorses the importance of examining the dataset for errors prior to initiating data analysis. Furthermore, she emphasizes that errors may inadvertently surface during the data entry phase, with certain errors having the potential to significantly undermine the trustworthiness of analytical findings (Pallant, 2016). Recognizing the paramount importance of data screening and cleaning, the current researcher has taken various steps, including validating data from original questionnaires, checking for missing values, identifying outliers, assessing normality assumptions, and evaluating potential biases. Detailed information regarding these measures can be found in the forthcoming chapter. The adoption of these measures was imperative to guarantee the precision, comprehensiveness, and quality of the dataset prior to conducting statistical analyses, thereby ensuring that researchers could attain dependable and valid results.

3.10.2 Descriptive Analysis

Descriptive statistics are provided to summarize the basic information about the variables in the data set. Descriptive statistics are normally considered a first step in any statistical analysis to identify any type of trends, relationships or abnormal behavior (Maravelakis, 2019). Similarly, according to Trochim (2006) descriptive statistics involves analyzing data statistically in terms of minimum, maximum, means, standard deviation, and variance which can be achieved for Likert scale variables. In this study, descriptive statistics has been presented specifically in the data analysis/results section.

3.10.3 PLS – SEM Measurement Model

Researchers have advocated a two-step approach following PLS-SEM, as the measurement model and the structural model, in a statistical test (Hair et al., 2018). In the case of a measurement model, the validation is carried out through confirmatory factor analysis. The researcher tested internal consistency reliability (Cronbach Alpha and Composite Reliability), convergent and discriminant validity of both lower and higher order constructs.

3.10.4 PLS – SEM Structural Model

After establishing validity of measurement models, assessment of structural model has been performed through bootstrapping procedure in PLS-SEM. The structural model is used to test hypothesized relationships among the latent variables, along with evaluation of other quality criteria like estimation of R^2 , F^2 , and Q^2 (Hair et al., 2017).

3.11 Chapter Summary

This chapter delineates the main research approaches chosen when carrying out the study, with the aim of ensuring empirically sound and scientifically credible results. In addition, the chapter also delves into the research framework, research hypotheses, and research design that underpin this research. Additionally, it addresses various scales adapted for instrument development, the target study population, sampling techniques, determined sample size, and protocols followed for data collection. At the conclusion of this chapter, the section introduces the software and data analysis techniques that have been used in the next chapter.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter provides detailed information about different tests, their rationale and describes the results of the analyses carried out in this study. The chapter begins with a discussion of response rate, followed by some preliminary tests, such as data cleaning and screening, data normality, as well as common method and non-response bias. Subsequently, the profiles of the respondents and descriptive statistics are also presented along with the mean scores of the variables employed in the study. In this study, PLS-SEM was used for the analysis, so a measurement model was initially built to establish the reliability and validity of the first order and the second-order constructs. Later, a structural model was assessed using a bootstrapping procedure to establish the relationship between the latent variables. A total of ten (10) hypotheses were tested and their results are presented accordingly. Finally, all the results and their findings are summarized and given at the end of this chapter.

4.2 Response Rate

As discussed in the preceding chapter, this study involved an aggregate of 226 public and private universities situated in Pakistan. The process of determining the sample size involved two approaches: firstly, the application of the Krejcie and Morgan (1970) table resulted in a sample size of 144 universities, which was subsequently rounded up to 150; secondly, a power analysis was conducted using G*Power software, leading to an established sample size of 85 universities. Additionally, data were gathered from administrative managers who were randomly chosen to represent universities selected through stratified random sampling techniques on a proportional basis. This approach

entailed the segmentation of the entire university population into seven separate strata, each aligning with one of Pakistan's seven provinces/administrative regions: Balochistan, Khyber Pakhtunkhwa, Punjab, Sindh, Azad Jammu Kashmir, Gilgit-Baltistan, and Islamabad.

With the predetermined sample size in mind, the data collection stage commenced. Questionnaires were extended to administrators from 150 universities, chosen through random selection. To ensure comprehensive participation due to the widespread distribution of the study population across Pakistan, the researcher employed two methods of data collection: an online survey using Google Forms and the in-person distribution of paper-based questionnaires. The goal was to maximize the number of responses. The data collection process spanned three rounds, starting on March 1, 2022, and ending on May 31, 2022. Of the 150 questionnaires distributed, 111 responses were received, resulting in a response rate of 74.00%. However, six (06) of the questionnaires were excluded from the analysis due to substantially incomplete, while three (03) due to straight-line responses. This left a total of 105 usable questionnaires, yielding a valid response rate of 70.00%. This response rate is considered commendable for a survey aimed at an organizational analysis level (Sekaran & Bougie, 2016). Consequently, after deliberation with the research advisors, the researcher consciously elected to proceed with a sample size of 105 universities. While this actual sample size fell short of the initial estimate of 144 universities as per the Krejcie and Morgan (1970) table, it notably exceeded the target sample size of 85 universities, which was determined through the utilization of G*Power software. The detail of the questionnaires distributed and returned is shown in Table 4.1

Table 4.1*Response Rate*

Questionnaire	Frequency			Rate
	Online Survey	Personal Visit	Total	
Distributed	130	20	150	100.00 %
Returned	97	14	111	74.00 %
Usable	94	11	105	70.00 %

4.3 Data Screening and Cleaning

Prior to data analysis, it is critical to check the data set for errors, as failure to avoid data entry errors can seriously affect data analysis (Pallant, 2016). Hence, it is always good practice to compare the original data with the computerized file to ensure the accuracy of the data file (Tabachnick & Fidell, 2019). This allows researchers to identify any errors in the data file or questionnaires that are incomplete or may contain missing data. The data screening process consists of checking for errors, such as out-of-range scores on each of the variables, and finding the problematic cases for their correction or removal (Pallant, 2016). The purpose of data screening and cleaning is to ensure that the data file has no missing values and outliers to avoid issues of normality prior to SEM modelling (Field, 2018; Pallant, 2016). Even though the normal distribution of the data is not a prerequisite for Smart PLS to determine model quality and test hypothesized relationships between latent variables. Still, data screening was employed in this study to recognize the nature of the data distribution.

4.3.1 Missing Data

Missing data is known to be the most common problem in data analysis (Tabachnick & Fidell, 2019). Missing data are recognized as “valid values on one or more variables

are not available for analysis” (Hair et al., 2018). Before addressing the issue of missing data, the most important thing is to first look at the pattern of missing data rather than the amount of missing data. The researchers argued that if the missing values appear randomly, this is a less serious problem than non-random missing values because they can affect the generalizability of the results (Tabachnick & Fidell, 2019).

Regarding the online survey, the link was sent to 130 respondents from randomly selected universities, of which 97 respondents completed the questionnaires, but three (03) of the questionnaires were rejected due to a consistent response pattern (straight-line responses). The straight-line is when a respondent selects the same answer for almost all the items, therefore, there is no distinction between the latent variables. The researchers suggested removing items that have a consistent (straight-line) response pattern (Hair et al., 2014). Therefore, only 94 usable questionnaires remained for the final analysis. On the other hand, 20 paper-based questionnaires were distributed to universities in central Punjab. However, only 14 questionnaires were returned, and three (03) of them were rejected because they were largely unfilled, and a large amount of data were missing. Thus, the final useful questionnaires were left to 11. Although it was not necessary to perform a missing value analysis as all items of the online survey were mandatory except for the names of the respondents. But because some of the questionnaires were administered in person, the researcher decided to run a "Missing Values Analysis" in SPSS (version-25) to identify missing data. The results revealed that there were no missing values that require due consideration during data screening and cleaning, since all incomplete cases were already excluded before entering the data into SPSS.

4.3.2 Outliers

Detecting outliers and then dealing with them is another important aspect of data screening and data cleaning. Outliers are scores that are considerably different from the rest of the data in the sample (Field, 2018; Pallant, 2016). An outlier can be univariate or multivariate. A univariate outlier is a case that has an extreme value in a single variable. Instead, a multivariate outlier is a case that has a combination of extreme values in two or more variables (Tabachnick & Fidell, 2019). In IBM SPSS, data points that extend more than 1.5 box lengths from the edge of the box are called outliers (appear as ° small circles), while data points that extend more than 3 box lengths from the edge of the box are considered extreme points (they appear as * asterisks) (Pallant, 2016).

Researchers have mixed opinions regarding outliers, whether they present interesting or distorted information about the data. Outliers could be challenging if they are not representative of the population and can seriously distort statistical results (Hair et al., 2018). Similarly, outliers can have a dramatic effect on the correlation coefficient, especially in small samples; sometimes they tend to increase the value of “R” from what it should be, while in other cases they can also undermine the true relationship (Pallant, 2016). On the contrary, outliers might be beneficial and might have some interesting population characteristics that have not been discovered so far in the analysis (Hair et al., 2018). Similarly, there is no agreement among researchers on how to treat outliers. Some have argued to remove the outlier from the data set or otherwise assign a number that is high but not too different from the remaining set of scores (Pallant, 2016). Whereas, Hair et al. (2018) advocated that outliers should never be removed unless there is concrete evidence that the outliers are unusual and not representative of the

population. They further argued that if outliers are truly representative of the population, they should be retained to ensure generalizability of the results to the entire population (Hair et al., 2018).

Univariate outliers can be detected through graphical methods such as histogram, boxplot, and normal probability charts etc. a z-score is considered an effective measure to determine a suspected outlier in any study. Data that follow a normal distribution have 95% of cases between z-scores of ± 1.96 and 99% of cases between z-scores of ± 2.58 (Grove et al., 2013). The researchers recommended using an absolute value of ± 3.29 to identify outliers (Tabachnick & Fidell, 2013). In simple words, any case that has a z-score value greater than +3.29 or less than -3.29 is considered an outlier. On the other hand, the Mahalanobis distance is the most common method to detect multivariate outliers. "Mahalanobis distance is the distance of a case from the centroid of the remaining cases where the centroid is the point created at the intersection of the means of all the variables" (Tabachnick & Fidell, 2019).

In this study, the researcher performed a z-score analysis for each variable to detect outliers in SPSS. The z-score for all variables was within the threshold value of ± 3.29 , so no univariate outliers were identified in this study. Besides, the Mahalanobis distance test was also performed to identify multivariate outliers. For the Mahalanobis distance test, a p-value < 0.001 is used as the criterion to designate any observation as an outlier (Hair et al., 2018). Since no observation was less than the threshold value of 0.001, it means that the sample data is also free of multivariate outliers.

4.3.3 Normality Tests

Prior to data analysis, it is necessary to assess the normality assumption to decide whether to use a parametric or non-parametric test (Orcan, 2020). But the problem lies in social science research, where the data collected often does not follow a normal distribution (Hair et al., 2014). The lack of normality in the data set could potentially affect the integrity of the results to some extent. Therefore, it is argued that researchers must understand the sensitivity of highly skewed data that can reduce the statistical power of the analysis, since the significance of the model parameters depends on the standard errors from the bootstrap, which can be inflated due to highly skewed data (Hair et al., 2014).

Although graphical and statistical methods are available to assess the normality of data, the first method has some limitations. For example, histogram is an attractive graphical method, it is not suitable for smaller samples because the construction of the histogram can affect with its visual representation and usability (Hair et al., 2018). While statistical tests like skewness and kurtosis, and Kolmogorov-Smirnov and Shapiro-Wilk tests, are widely used to check whether the sample data follows a normal distribution or not. Even though, PLS-SEM does not have any assumption of data normality (Bird et al., 2002; Cassel et al., 1999; Chin, 1998; Reinartz et al., 2009); however, the researcher still decided to assess the normality of data as guided by the Hair et al. (2014), that highly skewed data might diminish the statistical power of analysis. The statistical tests performed in SPSS (version 25) to evaluate the assumption of normality of the data are discussed below.

4.3.3.1 Skewness and Kurtosis Tests

Skewness and kurtosis are two measures to assess the normality of the data to some extent (Pallant, 2016). "Skewness assesses the extent to which a variable's distribution is symmetrical. If the distribution of responses for a variable stretch toward the right or left tail of the distribution, then the distribution is referred to as skewed. Kurtosis is a measure of whether the distribution is too peaked (a very narrow distribution with most of the responses in the center)" (Hair et al., 2017). Researchers have suggested using Fisher's coefficient to assess skewness and kurtosis. To obtain Fisher's skewness coefficient, the skewness value can be divided by the standard error of skewness. Whereas, to obtain Fisher's kurtosis coefficient, the kurtosis value can be divided with the standard error of kurtosis (Plichta & Kelvin, 2013). In previous literature, there are several rules of thumb regarding acceptable skewness or kurtosis, yet it is difficult to give a conclusive indication of what is acceptable, except to say that closer to normal is better than further away (Osborne, 2013). However, the most commonly used critical value (z-score) for assessing skewness and kurtosis is ± 2.58 at the 0.01 significance level, while a z-score of ± 1.96 is significant at the 0.05 level (Hair et al., 2018).

In this study, the researcher calculated the skewness and kurtosis statistics in SPSS (version 25), but since SPSS only generates skewness and kurtosis values along with their respective standard errors. Therefore, the Fisher coefficient for skewness and kurtosis were calculated manually. The results confirmed that the data distribution was not normal, as a few skewness values (i.e., Fisher's skew coefficient) were beyond the recommended threshold (-1.96 to +1.96). Similarly, some kurtosis values (i.e., Fisher's kurtosis coefficient) were beyond the accepted threshold z-scores (-1.96 to +1.96). This means that the assumption of normal distribution of the data has been violated to some

extent; however, the results support the use of PLS-SEM in this study. The z-scores for skewness (Fisher's Skewness Coefficient) and kurtosis (Fisher's Kurtosis Coefficient) are given in Table 4.2

Table 4.2

Descriptive Statistics – Skewness and Kurtosis

Constructs	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Leadership Styles							
TFL	105	2.00	5.00	3.5510	0.73818	-0.051	-1.761
TNL	105	2.13	5.00	3.5893	0.61157	-0.633	-0.101
Accreditation							
ACC	105	1.80	5.00	3.6438	0.87397	0.583	-2.094
Motivation							
IMOT	105	2.00	4.78	3.4328	0.72582	-0.851	-2.286
EMOT	105	1.44	5.00	3.4074	0.67738	-1.996	0.810
Quality Culture							
QC	105	1.50	5.00	3.3190	0.88422	0.456	-1.817
Higher Education Performance							
TP	105	2.20	5.00	3.5962	0.74109	-0.229	-1.366
RP	105	1.40	5.00	3.2724	0.89577	0.180	-1.326
SP	105	2.07	5.00	3.4063	0.72463	0.488	-1.433

Source: Developed by Researcher

4.3.3.2 Kolmogorov-Smirnov and Shapiro-Wilk Tests

As discussed above, data normality can be tested in many ways, but the Kolmogorov-Smirnov (KS) test and Shapiro-Wilk (SW) tests are the two most common methods to check data normality (Razali & Wah, 2011). Similarly, according to Kim (2013), the Kolmogorov-Smirnov and Shapiro-Wilk tests are widely used tests for small and medium samples (e.g., $n < 300$), but are not reliable for large samples. Given the

samples size in the current study (i.e., 105), the researcher performed both tests (Kolmogorov-Smirnov and Shapiro-Wilk) for each item/indicator for all independent, mediating, and dependent variables, to assess that the sample data follow normal distribution or not. In alignment with the recommendations of previous researchers (Mishra et al., 2019; Shapiro & Wilk, 1965), the subsequent hypothesis has been formulated for the evaluation of data normality using the Kolmogorov-Smirnov and Shapiro-Wilk tests.

The null and alternative hypotheses are:

H₀: The data are normally distributed.

H₁: The data are not normally distributed.

In this study, all *p*-values generated by the Kolmogorov-Smirnov and Shapiro-Wilk tests were less than 0.05, thus rejecting H₀, indicating that the collected data were not normally distributed (Mishra et al., 2019; Shapiro & Wilk, 1965). This is an expected result because when the collected data comes from samples that are not very large, they generally follow a non-normal distribution (Field, 2018; Hwang et al., 2018; Shan et al., 2017). The detail of the normality results generated from the Kolmogorov-Smimov and Shapiro-Wilk tests is provided in Table 4.3.

Table 4.3*Tests of Normality*

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TFL1	0.333	105	0.000	0.817	105.000	0.000
TFL2	0.203	105	0.000	0.879	105.000	0.000
TFL3	0.243	105	0.000	0.872	105.000	0.000
TFL4	0.224	105	0.000	0.868	105.000	0.000
TFL5	0.199	105	0.000	0.877	105.000	0.000
TFL6	0.218	105	0.000	0.871	105.000	0.000
TFL7	0.293	105	0.000	0.852	105.000	0.000
TNL1	0.224	105	0.000	0.873	105.000	0.000
TNL2	0.186	105	0.000	0.872	105.000	0.000
TNL3	0.205	105	0.000	0.880	105.000	0.000
TNL4	0.194	105	0.000	0.873	105.000	0.000
TNL5	0.215	105	0.000	0.875	105.000	0.000
TNL6	0.239	105	0.000	0.873	105.000	0.000
TNL7	0.251	105	0.000	0.870	105.000	0.000
TNL8	0.255	105	0.000	0.870	105.000	0.000
ACC1	0.236	105	0.000	0.867	105.000	0.000
ACC2	0.194	105	0.000	0.874	105.000	0.000
ACC3	0.255	105	0.000	0.856	105.000	0.000
ACC4	0.191	105	0.000	0.869	105.000	0.000
ACC5	0.173	105	0.000	0.898	105.000	0.000
IMOT1	0.209	105	0.000	0.879	105.000	0.000
IMOT2	0.253	105	0.000	0.872	105.000	0.000
IMOT3	0.210	105	0.000	0.899	105.000	0.000
IMOT4	0.247	105	0.000	0.871	105.000	0.000
IMOT5	0.241	105	0.000	0.876	105.000	0.000
IMOT6	0.266	105	0.000	0.867	105.000	0.000
IMOT7	0.214	105	0.000	0.905	105.000	0.000
IMOT8	0.240	105	0.000	0.862	105.000	0.000
IMOT9	0.218	105	0.000	0.877	105.000	0.000
EMOT1	0.178	105	0.000	0.913	105.000	0.000
EMOT2	0.224	105	0.000	0.887	105.000	0.000
EMOT3	0.224	105	0.000	0.876	105.000	0.000
EMOT4	0.296	105	0.000	0.846	105.000	0.000
EMOT5	0.243	105	0.000	0.871	105.000	0.000
EMOT6	0.269	105	0.000	0.861	105.000	0.000
EMOT7	0.210	105	0.000	0.904	105.000	0.000
EMOT8	0.219	105	0.000	0.896	105.000	0.000
EMOT9	0.216	105	0.000	0.905	105.000	0.000

Table 4.3 (continued)

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
QC1	0.187	105	0.000	0.913	105.000	0.000
QC2	0.171	105	0.000	0.895	105.000	0.000
QC3	0.209	105	0.000	0.896	105.000	0.000
QC4	0.235	105	0.000	0.891	105.000	0.000
TP1	0.281	105	0.000	0.864	105.000	0.000
TP2	0.218	105	0.000	0.891	105.000	0.000
TP3	0.238	105	0.000	0.897	105.000	0.000
TP4	0.247	105	0.000	0.863	105.000	0.000
TP5	0.234	105	0.000	0.860	105.000	0.000
RP1	0.208	105	0.000	0.908	105.000	0.000
RP2	0.214	105	0.000	0.903	105.000	0.000
RP3	0.225	105	0.000	0.895	105.000	0.000
RP4	0.210	105	0.000	0.880	105.000	0.000
RP5	0.177	105	0.000	0.909	105.000	0.000
SP1	0.289	105	0.000	0.854	105.000	0.000
SP2	0.283	105	0.000	0.855	105.000	0.000
SP3	0.345	105	0.000	0.800	105.000	0.000
SP4	0.236	105	0.000	0.859	105.000	0.000
SP5	0.252	105	0.000	0.869	105.000	0.000
SP6	0.270	105	0.000	0.864	105.000	0.000
SP7	0.227	105	0.000	0.892	105.000	0.000
SP8	0.222	105	0.000	0.874	105.000	0.000
SP9	0.272	105	0.000	0.858	105.000	0.000
SP10	0.198	105	0.000	0.908	105.000	0.000
SP11	0.248	105	0.000	0.864	105.000	0.000
SP12	0.185	105	0.000	0.897	105.000	0.000
SP13	0.171	105	0.000	0.915	105.000	0.000
SP14	0.188	105	0.000	0.909	105.000	0.000
SP15	0.190	105	0.000	0.906	105.000	0.000

a. Lilliefors Significance Correction

Based on the results of the normality tests, where both the Kolmogorov-Smirnov and Shapiro-Wilk tests yielded p-values below 0.05, there is substantial evidence to suggest that the data departs from a strictly normal distribution. Given the non-normative nature of the data, the researcher has opted to employ PLS-SEM, a robust statistical software

well-equipped to handle non-normally distributed data during analysis (Hair et al., 2019).

4.4 Non-Response Bias Test

Non-response refers to the portion of invited participants who did not complete or return the survey. Non-response bias occurs when there are significant differences between survey responses and non-responses (Lambert & Harrington, 1990). In this study, data collection involved online and paper-based questionnaires to mitigate non-response bias among the diverse university population in Pakistan. Fowler (2014) suggests that using multiple data collection methods can reduce non-response rates, reach more respondents, increase motivation, and lower data collection costs.

Some researchers argue that achieving a 50 percent response rate eliminates nonresponse bias (Lindner & Wingenbach, 2002). In this study, the response rate reached 70.00%, surpassing this threshold, making non-response bias less of a concern. Nevertheless, as suggested by Armstrong and Overton (1977), an independent samples t-test was conducted. The data were divided into two groups: early responses (65 received in the first month) and late responses (40 mainly in the third month after reminders). Mean comparisons across key study variables were performed for these groups using SPSS.

The results of an independent sample t-test revealed that, generally, there is no significant difference regarding early and late group responses based on transformational leadership ($t = -1.158$, $p = 0.140$), transactional leadership ($t = -2.413$, $p = 0.744$), accreditation ($t = 0.264$, $p = 0.413$), intrinsic motivation ($t = 0.312$, $p =$

0.116), extrinsic motivation ($t = 0.834, p = 0.952$), quality culture ($t = 0.059, p = 0.064$), teaching performance ($t = 0.880, p = 0.038$), research performance ($t = 0.963, p = 0.933$), and service performance ($t = 1.295, p = 0.127$). The result of the independent samples t-test is shown in Table 4.4

Table 4.4

Independent sample t-test results for non-response bias (n=105)

Category	Group	N	Mean	Std. Deviation	Levene's Test for Equality of Variances	
					F	Sig.
TFL	Early	65	3.4857	0.77171	2.207	0.140
	Late	40	3.6571	0.67612		
TNL	Early	65	3.4788	0.58903	0.107	0.744
	Late	40	3.7688	0.61208		
ACC	Early	65	3.6615	0.90341	0.676	0.413
	Late	40	3.6150	0.83437		
IMOT	Early	65	3.4154	0.76307	2.515	0.116
	Late	40	3.4611	0.66930		
EMOT	Early	65	3.3641	0.67286	0.004	0.952
	Late	40	3.4778	0.68733		
QC	Early	65	3.3231	0.95374	3.505	0.064
	Late	40	3.3125	0.76951		
TP	Early	65	3.6462	0.81223	4.424	0.038
	Late	40	3.5150	0.60914		
RP	Early	65	3.3385	0.88524	0.007	0.933
	Late	40	3.1650	0.91359		
SP	Early	65	3.4779	0.78223	2.363	0.127
	Late	40	3.2900	0.61130		

Based on the findings from Levene's test, it can be reasonably concluded that there is a substantial absence of a significant difference between early and late respondents. Consequently, it suggests that there is no noteworthy concern regarding non-response bias in this study.

4.5 Common Method Bias Tests

In recent decades, Common Method Variance (CMV) has garnered significant attention in empirical studies of organizational context. CMV can introduce bias into results when the same respondents serve as the data source (Jakobsen & Jensen, 2015). CMV is characterized by the variance stemming from systematic errors and is shared among variables measured using the same source or method (Richardson et al., 2009). This systematic error variance tends to generate common method bias, thereby distorting the estimated relationships between variables or measures (Campbell & Fiske, 1959; Jakobsen & Jensen, 2015). Previous literature has explored various strategies and controls to address CMV (Baumgartner & Weijters, 2012; Podsakoff et al., 2003). These strategies can be broadly categorized into two types: procedural controls, implemented before data collection, and statistical controls, applied after data collection (Kock et al., 2021; Podsakoff et al., 2012). Procedural controls are those strategies that are implemented before data collection, while statistical controls are performed after data collection (Kock et al., 2021).

Procedural control is a strategy applied before data collection to reduce the risk of common-method bias (CMB). Researchers have proposed various procedural measures, such as clarifying survey purpose and instructions, enhancing scale item clarity, eliminating shared characteristics in items, balancing positive and negative items, diversifying data sources, separating predictor, and criterion data collection, and ensuring respondent confidentiality and anonymity (Jordan & Troth, 2019; Podsakoff et al., 2012). This study has implemented several preemptive steps to mitigate common method bias, including careful selection and adaptation of scale items, safeguarding

respondent confidentiality/anonymity, reducing item ambiguity, avoiding unfamiliar terms and double-barreled statements, and keeping questionnaire items simple and user-friendly.

In terms of statistical control methods for detecting CMB, researchers have proposed several tests, including Harman's one-factor test, the unmeasured latent factor technique, the confirmatory factor analysis marker technique, and the use of the IV technique (Jordan & Troth, 2019). Additionally, a researcher has suggested a post-hoc statistical approach, the full collinearity test, for estimating CMB (Kock, 2015, 2017). Despite the implementation of procedural safeguards, researchers also advise the application of appropriate statistical controls (Kock et al., 2021). In this study, tests such as Harman's single-factor test and the full collinearity test were utilized to assess the presence or absence of CMB in the data.

4.5.1 Harman's Single-Factor Test

Harman's one-factor test is one of the most widely used tests that addresses the problem of common method variance (Podsakoff et al., 2003). It is a post hoc statistical procedure carried out after data collection to check if a single factor explains the variance in the data set, and if no single factor explains or accounts for most of the covariance, this means that CMV is not a major concern in the study (Chang et al., 2010). This test requires that all items of all constructs in a study be included in a factor analysis to verify whether most of the variance can be explained by one general factor (Podsakoff et al., 2003). The results of Harman's single-factor test showed that the total variance for a single factor was 34.229%, which is less than 50% (Harman, 1967;

Podsakoff & Organ, 1986), suggesting that the data collected in the study were unaffected by CMB. The result of the Harman's single factor is presented in Table 4.5

Table 4.5

Harman's Single-Factor Test

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	23.523	35.108	35.108	22.933	34.229	34.229
2	4.827	7.204	42.312			
3	3.557	5.309	47.621			
4	3.031	4.524	52.145			
5	2.727	4.070	56.216			
6	2.341	3.494	59.709			
7	2.007	2.995	62.704			
8	1.792	2.674	65.379			
9	1.544	2.304	67.683			
10	1.458	2.176	69.858			
11	1.251	1.867	71.726			
12	1.164	1.737	73.463			
13	1.143	1.705	75.168			
14	1.009	1.506	76.674			
15	0.891	1.329	78.004			
16	0.865	1.291	79.294			
17	0.843	1.259	80.553			
18	0.806	1.203	81.755			
19	0.718	1.072	82.827			
20	0.691	1.032	83.859			
21	0.644	0.961	84.820			
22	0.604	0.902	85.722			
23	0.576	0.859	86.581			
24	0.546	0.816	87.396			
25	0.508	0.759	88.155			
26	0.492	0.734	88.889			
27	0.477	0.712	89.601			
28	0.438	0.654	90.255			
29	0.424	0.634	90.888			
30	0.403	0.601	91.489			

Table 4.5 (Continued)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
31	0.375	0.559	92.049			
32	0.358	0.534	92.583			
33	0.336	0.501	93.084			
34	0.317	0.474	93.557			
35	0.291	0.434	93.992			
36	0.271	0.404	94.396			
37	0.260	0.388	94.784			
38	0.245	0.366	95.149			
39	0.238	0.356	95.505			
40	0.231	0.344	95.850			
41	0.217	0.324	96.173			
42	0.209	0.312	96.485			
43	0.204	0.305	96.790			
44	0.183	0.273	97.062			
45	0.171	0.256	97.318			
46	0.150	0.224	97.542			
47	0.146	0.218	97.759			
48	0.137	0.205	97.964			
49	0.129	0.193	98.157			
50	0.123	0.183	98.341			
51	0.119	0.178	98.519			
52	0.108	0.162	98.680			
53	0.101	0.151	98.832			
54	0.098	0.147	98.978			
55	0.088	0.131	99.109			
56	0.084	0.125	99.234			
57	0.077	0.114	99.348			
58	0.074	0.111	99.459			
59	0.063	0.093	99.553			
60	0.057	0.085	99.638			
61	0.047	0.070	99.708			
62	0.045	0.067	99.774			
63	0.042	0.062	99.837			
64	0.036	0.054	99.890			
65	0.029	0.043	99.934			
66	0.024	0.035	99.969			
67	0.021	0.031	100.000			

Extraction Method: Principal Axis Factoring.

4.5.2 Full-Collinearity Test

In addition to Harman's single factor test, a full collinearity test was also performed to assess the CMB problem. When the independent variable is strongly and significantly correlated with other independent variables with a correlation value greater than 0.90, it is called multicollinearity (Hair et al., 2018). The multicollinearity can be examined by calculating the values of Variance Influence Factor (VIF) and tolerance value. VIF is the amount of variability of any selected independent variable that is explained by other independent variables, while the tolerance is the inverse of VIF (Hair et al., 2018).

In a full collinearity test, “if all VIFs resulting from a full collinearity test are equal to or lower than 3.3, the model can be considered free of common method bias” (Kock, 2015, 2017). In other words, if the VIF value of any exogenous and endogenous variable is greater than 3.3, this may be an indication of collinearity and thus the model may have the problem of common method bias. In this study, the present researcher performed a series of collinearity tests by integrating latent variables into different sets in SPSS (version 25), with the aim of generating VIF values for all latent variables. The results showed that the VIF values for all latent variables were less than 3.3 (see Table 4.6), and therefore the data from this study can be considered free from common method bias.

Table 4.6*Full-Collinearity Test Results*

Criterion Variable	Predictor Variables	Tolerance	VIF
Higher Education Performance (HEP)	LS	0.549	1.822
	ACC	0.603	1.659
	MOT	0.501	1.994
	QC	0.426	2.346
Leadership Styles (LS)	ACC	0.534	1.873
	MOT	0.461	2.170
	QC	0.472	2.118
	HEP	0.374	2.674
Accreditation (ACC)	MOT	0.444	2.255
	QC	0.408	2.451
	HEP	0.425	2.356
	LS	0.552	1.812
Motivation (MOT)	QC	0.399	2.507
	HEP	0.432	2.312
	LS	0.583	1.715
	ACC	0.543	1.842
Quality Culture (QC)	HEP	0.408	2.453
	LS	0.663	1.509
	ACC	0.554	1.805
	MOT	0.442	2.261

Note: All VIF values are below the threshold value of 3.3

4.6 Respondents' Profile

This section discusses the demographic profile of the respondents with respect to their university, province, sector, department, gender, age, qualification, and designation. Since the unit of analysis in this study was the organization (institution), only one administrative manager on behalf of his/her university was allowed to participate in the study. Given the confidentiality concerns of the respondents (i.e., administrative managers), identifying information such as the name of the respondent and their

universities have not been disclosed. A total of 105 valid responses were received from universities across Pakistan. The demographic profile of the respondents is given in the following sections.

4.6.1 Province

As shown in Table 4.7, the maximum responses were received from universities located in Punjab, i.e., 36 (34.3%), while the minimum number of responses was received from Gilgit Baltistan, i.e., 01 (1.0%). Responses received from other provinces included Sindh 23 (21.9%), Khyber Pakhtunkhwa 20 (19.0%), Islamabad 17 (16.2%), Balochistan 05 (4.8%) and Azad Kashmir 3 (2.9%), respectively.

Table 4.7

Respondent Profile – Province

Province	Frequency	Percentage
Azad Kashmir	3	2.86
Balochistan	5	4.76
Gilgit Baltistan	1	0.95
Islamabad	17	16.19
Khyber Pakhtunkhwa	20	19.05
Punjab	36	34.29
Sindh	23	21.90
Total	105	100.0

4.6.2 Sector

As far as the sector of the participating universities is concerned, 59 (56.2%) responses were collected from public sector universities while 46 (43.8%) responses were from universities operating in the private sector in Pakistan (See Table 4.8).

Table 4.8*Respondent Profile – Sector*

Sector	Frequency	Percentage
Public Sector	59	56.2
Private Sector	46	43.8
Total	105	100.0

4.6.3 Department

Regarding the respondents' department, 33 (31.4%) respondents were from the social science department, 32 (30.5%) from the business and management science department, 15 (14.3%) from the quality enhancement cell, 10 (9.5%) from computer science and IT, and 07 (6.7%) were from engineering & technology, while 08 (7.6%) respondents were from other departments, respectively (See Table 4.9).

Table 4.9*Respondent Profile – Department*

Department	Frequency	Percentage
Social Sciences	33	31.43
Business Adm. & Management Sciences	32	30.48
Computer Science & IT	10	9.52
Engineering & Technology	7	6.67
Quality Enhancement Cell	15	14.29
Others	8	7.62
Total	105	100.0

4.6.4 Gender

In terms of gender, 81 (77.1%) of the respondents were male, while 24 (22.9%) respondents were from the female category (See Table 4.10).

Table 4.10*Respondent Profile – Gender*

Gender	Frequency	Percentage
Male	81	77.1
Female	24	22.9
Total	105	100.0

4.6.5 Age

In terms of age, almost half of the respondents 51 (48.6%) were between 31 and 40 years old, followed by 39 (37.1%) respondents aged between 41 and 50 years, and 11 (10.5 %) respondents aged between 51 and 60 years. However, a very small proportion of respondents were from other age groups, including 3 (2.9%) respondents who were 61 years of age or older, while only 1 (1.0%) respondent was 30 years of age or younger (See Table 4.11).

Table 4.11*Respondent Profile – Age*

Age (Years)	Frequency	Percentage
30 or less	1	0.95
31 – 40	51	48.57
41 – 50	39	37.14
51 – 60	11	10.48
61 and more	3	2.86
Total	105	100.0

4.6.6 Qualification

With respect to qualification of the respondents, more than 2/3, that is, 75 (71.4%) of the respondents had a doctorate (Ph.D.) and 23 (21.9%) had a Master of Science (MS) and/or Master of Philosophy (M. Phil) degree. While only 6 (5.7%) of the respondents

had a post-doctoral degree, and one respondent had a bachelor's or master's degree (16 years education) (See Table 4.12).

Table 4.12

Respondent Profile – Qualification

Characteristics	Frequency	Percentage
BS/ Master (16 Yrs.)	1	0.95
MS/ M.Phil. (18 Yrs.)	23	21.90
PhD.	75	71.43
Post. Doc.	6	5.71
Total	105	100.0

4.6.7 Designation

In terms of designation, most of the respondents 67 (63.8%) were HODs at their respective universities, while 17 (16.2%) were faculty Deans and 13 (12.4%) were directors of QECs. Similarly, 4 (3.8%) of the respondents were VCs, 2 (1.9%) were ORIC directors, and 2 (1.9%) held other administrative positions at their respective universities (See Table 4.13).

Table 4.13

Respondent Profile – Designation

Characteristics	Frequency	Percentage
VC	4	3.81
Dean	17	16.19
Director QEC	13	12.38
Director ORIC	2	1.90
HOD	67	63.81
Other	2	1.90
Total	105	100.0

4.7 Rationale for using Structural Equation Modelling

Given the research problem and related factors outlined in the first two chapters, this study introduces a model comprising three independent variables, one mediating variable, and a dependent variable characterized by intricate interactions among latent variables. Traditionally, researchers have predominantly relied on univariate and bivariate analyses to investigate data and relationships (Hair et al., 2017). Nevertheless, due to the intricate nature of social science relationships, there has been a shift towards adopting advanced techniques like structural equation modeling (SEM) for analyzing multivariate data (Hair et al., 2017).

There are two primary SEM approaches: covariance-based SEM (CB-SEM), which validates or rejects theories by assessing how well a theoretical model fits the data's covariance matrix, and partial least squares SEM (PLS-SEM), which focuses on theory development and explaining variance in dependent variables (Hair et al., 2017). Nonetheless, debates persist in the academic community regarding the reliability and effectiveness of CB-SEM and PLS-SEM, each having its pros and cons (Hair et al., 2011; Reinartz et al., 2009; Richter et al., 2016; Sarstedt et al., 2016).

Hair et al. (2019) provide valuable insights and criteria for researchers to determine the most suitable methodology for their studies. Some of these criteria are particularly relevant to our current study, such as the complexity of the structural model, which includes multiple constructs, indicators, and their interconnections; the limited sample size due to a relatively small study population; the non-normal distribution of the data; and the utilization of latent variable scores for second-order construct validation. Considering these factors, the present study has chosen to prioritize PLS-SEM over

CB-SEM for conducting advanced-level analyses, including assessments of the measurement model and structural model.

4.8 Measurement Model Assessment (PLS-SEM)

PLS-SEM analysis consists of two main levels: the measurement model and the structural model (Hair et al., 2017). The first level focuses on evaluating construct reliability, convergent validity, and discriminant validity by examining relationships between constructs and their respective indicators. In PLS-SEM, this level is known as the "outer model" (Hair et al., 2017). However, it's crucial for researchers to differentiate between two key types of measurement models, reflective and formative, before proceeding with the evaluation. This distinction is essential as it informs the accurate specification of measurement models and the establishment of meaningful relationships within the structural model (Anderson & Gerbing, 1988).

Another crucial consideration for researchers is deciding on the mode of higher-order constructs (HOC), which can be reflective or formative. There are four possible choices: (Type-I) reflective-reflective, (Type-II) reflective-formative, (Type-III) formative-reflective, or (Type-IV) formative-formative models (Sarstedt et al., 2019; Wetzels et al., 2009). HOCs, also known as hierarchical component models, provide researchers with a robust framework for modeling a construct on more abstract dimensions (HOC) and its more specific sub-dimensions, known as lower-order constructs (LOC) (Sarstedt et al., 2019).

The study selected a reflective-reflective model (Type-I), indicating causality from constructs to items based on theoretical foundations and the nature of latent variables.

This choice aligns well with the research question, enabling an exploration of relationships among leadership styles, accreditation, motivation, quality culture, and higher education performance in Pakistani universities. The reflective model is suited to uncovering the deeper underlying concepts these constructs represent, reflecting their interrelationships accurately and thus aligning with the study's research objectives. Additionally, reflective models have received increasing attention in recent years, especially in psychology and management science, while formative models remain more common in economics and sociology (Coltman et al., 2008; Sarstedt et al., 2022). This underscores the appropriateness of the chosen reflective-reflective model for the context and research objectives of the present study.

During measurement model assessment, the researcher first validated the lower-order (or first-order) components and then the higher-order (or second-order) components for convergent validity, internal consistency reliability, and discriminant validity. Sarstedt et al. (2019) argued that when evaluating the reflective measurement model, both the lower-order component and higher-order component measurement models need to be validated separately.

First, factor loadings were assessed to confirm convergent validity between item measures (Chin, 1998; Hair et al., 2018). Factor loading refers to the “the extent to which each of the item in the correlation matrix correlates with the given principal component. Factor loading can range from -1.0 to $+1.0$, with higher absolute values indicating a higher correlation of the item with the underlying factor” (Pett et al., 2003). Out of the 67 items examined, nine items were excluded from the study, namely EMOT4, EMOT6, SP1, SP2, SP3, TNL5, TNL6, TNL7, and TNL8, as their factor

loading values were less than 0.50. However, all other items in the study exhibited factor loadings higher than the recommended threshold of 0.50 (Hair et al., 2016). Consequently, no further item removal was necessary. The detail of the factor loads of each item is presented in Table 4.14 and in Figure 4.1.

Table 4.14

Factor Loading

	EMOT	IMOT	QC	ACC	RP	SP	TFL	TNL	TP
EMOT1	0.692								
EMOT2	0.749								
EMOT3	0.707								
EMOT5	0.698								
EMOT7	0.667								
EMOT8	0.769								
EMOT9	0.695								
IMOT1		0.695							
IMOT2		0.830							
IMOT3		0.851							
IMOT4		0.746							
IMOT5		0.795							
IMOT6		0.817							
IMOT7		0.747							
IMOT8		0.751							
IMOT9		0.761							
QC1			0.819						
QC2			0.867						
QC3			0.859						
QC4			0.821						
ACC1				0.839					
ACC2				0.882					
ACC3				0.877					
ACC4				0.819					
ACC5				0.885					
RP1					0.848				
RP2					0.868				
RP3					0.902				
RP4					0.812				
RP5					0.887				

Table 4.14 (Continued)

	EMOT	IMOT	QC	ACC	RP	SP	TFL	TNL	TP
SP4						0.783			
SP5						0.798			
SP6						0.843			
SP7						0.847			
SP8						0.807			
SP9						0.653			
SP10						0.811			
SP11						0.832			
SP12						0.844			
SP13						0.828			
SP14						0.820			
SP15						0.681			
TFL1							0.789		
TFL2							0.847		
TFL3							0.825		
TFL4							0.811		
TFL5							0.774		
TFL6							0.849		
TFL7							0.792		
TNL1								0.876	
TNL2								0.861	
TNL3								0.854	
TNL4								0.874	
TP1									0.680
TP2									0.854
TP3									0.849
TP4									0.835
TP5									0.854

Note: TFL: Transformational Leadership, TNL: Transactional Leadership, ACC: Accreditation, IMOT: Intrinsic Motivation, EMOT: Extrinsic Motivation, QC: Quality Culture, TP: Teaching Performance, RP: Research Performance, SP: Service Performance

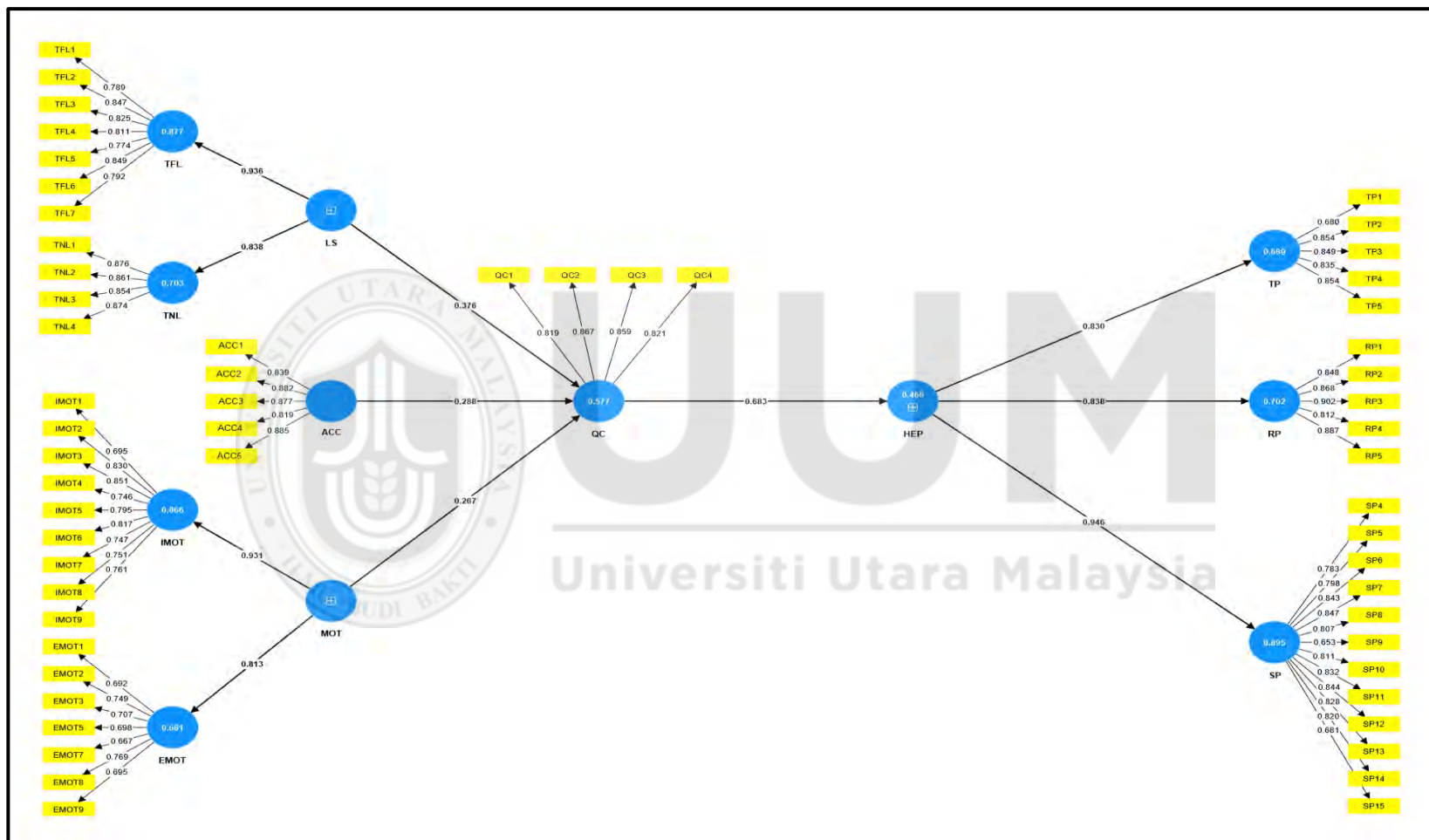


Figure 4.1

Assessment of Reflective Measurement Model – Factor Loadings

4.8.1 Reliability Analysis

“Reliability is defined as the extent to which a measuring instrument is stable and consistent. The essence of reliability is repeatability. If an instrument is administered over and over again, will yield the same results” (Mark, 1996). The two most used measures of reliability are Cronbach Alpha and Composite Reliability. The results of Cronbach's alpha and composite reliability are presented in Table 4.15. The Cronbach's Alpha of all the constructs ranges between 0.837 and 0.947, while their corresponding Composite Reliability ranges between 0.878 and 0.954, and thus are above the required threshold of 0.70 (Hair et al., 2011). This implies that the constructs of all variables have been verified as reliable, indicating that their constituent items consistently measure the same underlying construct.

Table 4.15

Construct Reliability Analysis - Cronbach's Alpha and Composite Reliability

Variables/ Constructs	Cronbach's Alpha	Composite Reliability (CR)
TFL	0.914	0.932
TNL	0.889	0.923
ACC	0.913	0.935
IMOT	0.918	0.932
EMOT	0.837	0.878
QC	0.862	0.907
TP	0.873	0.909
RP	0.915	0.936
SP	0.947	0.954

Note: TFL: Transformational Leadership, TNL: Transactional Leadership, ACC: Accreditation, IMOT: Intrinsic Motivation, EMOT: Extrinsic Motivation, QC: Quality Culture, TP: Teaching Performance, RP: Research Performance, SP: Service Performance

4.8.2 Convergent Validity

“Convergent validity is the process to which multiple attempts to measure the same concept are in agreement. The idea is that two or more measures of the same thing should convey highly if they are valid measure of the concept” (Bagozzi et al., 1991). When the AVE value equals or surpasses the recommended threshold of 0.50 (Barclay et al., 1995), it signifies that the items effectively converge to assess the latent construct, thereby establishing convergent validity (Chin, 1998; Fornell & Larcker, 1981). In the present study, AVE values for all constructs ranged from 0.606 to 0.750, except for extrinsic motivation, which exhibited a slightly lower AVE value of 0.507. Nevertheless, as all construct values exceed the 0.50 threshold, it indicates that all items effectively converge to measure the underlying construct, affirming the acceptable level of convergent validity across all constructs. Consequently, convergent validity does not pose an issue in this study. The AVE value for each construct is given in Table 4.16

Table 4.16

Convergent Validity (AVE) of Constructs

Constructs	Average Variance Extracted (AVE)
TFL	0.661
TNL	0.750
ACC	0.741
IMOT	0.606
EMOT	0.507
QC	0.708
TP	0.668
RP	0.746
SP	0.637

Note: TFL: Transformational Leadership, TNL: Transactional Leadership, ACC: Accreditation, IMOT: Intrinsic Motivation, EMOT: Extrinsic Motivation, QC: Quality Culture, TP: Teaching Performance, RP: Research Performance, SP: Service Performance

4.8.3 Discriminant Validity

“Discriminant validity is the extent to which a construct is truly distinct from other constructs by empirical standards”(Hair et al., 2017). The notion of discriminant validity is that if two or more concepts are unique, then valid measures of each should not correlate too highly (Bagozzi et al., 1991). Discriminant validity is calculated through three different methods, including Fornell-Larcker Criterion, Cross-Loadings (Hair et al., 2017); and HTMT ratio (Henseler et al., 2015).

4.8.3.1 Fornell – Larcker Criterion

Following the criterion established by Fornell and Larcker (1981), discriminant validity is established when the square root of AVE for a construct exceeds its correlation with all other constructs. In the present study, the square root of AVE (in bold and italics) for each construct indeed surpassed its correlation with all other constructs (see Table 4.17). This result indicates that, in line with the Fornell-Larcker criterion, the discriminant validity of all constructs has been confirmed as acceptable.

Table 4.17

Discriminant Validity – Fornell-Larcker Criterion

	EMOT	IMOT	QC	ACC	RP	SP	TFL	TNL	TP
EMOT	<i>0.712</i>								
IMOT	0.544	<i>0.778</i>							
QC	0.533	0.583	<i>0.841</i>						
ACC	0.352	0.588	0.579	<i>0.861</i>					
RP	0.403	0.536	0.531	0.613	<i>0.864</i>				
SP	0.480	0.641	0.671	0.562	0.669	<i>0.798</i>			
TFL	0.376	0.411	0.561	0.317	0.360	0.401	<i>0.813</i>		
TNL	0.466	0.548	0.580	0.354	0.394	0.437	0.593	<i>0.866</i>	
TP	0.451	0.647	0.549	0.599	0.662	0.672	0.385	0.415	<i>0.817</i>

Note: Bold and Italics represent the Square-root of AVE.

4.8.3.2 Cross Loadings

Cross loadings help assess whether an item belonging to a particular construct is strongly loaded on its own parent construct instead of other constructs in the study. A factor is considered reliable if it has four or more loadings of at least 0.6 regardless of the sample size (Guadagnoli & Velicer, 1988). The results (Table 4.18) show that the factor loading of all the items is greater than 0.6, as well as higher in the underlying construct to which they belong compared to the other construct under study (Wasko & Faraj, 2005). Therefore, based on the evaluation of cross-loadings discriminant validity is achieved.



Table 4.18*Discriminant Validity – Cross Loadings*

Variables/ Dimensions	Item	EMOT	IMOT	QC	ACC	RP	SP	TFL	TNL	TP
Extrinsic Motivation	EMOT1	0.692	0.465	0.286	0.142	0.264	0.338	0.134	0.162	0.242
	EMOT2	0.749	0.358	0.308	0.336	0.290	0.288	0.126	0.232	0.321
	EMOT3	0.707	0.388	0.270	0.267	0.253	0.349	0.167	0.234	0.324
	EMOT5	0.698	0.436	0.295	0.181	0.243	0.266	0.226	0.286	0.360
	EMOT7	0.667	0.368	0.476	0.175	0.324	0.348	0.439	0.501	0.205
	EMOT8	0.769	0.373	0.589	0.342	0.390	0.496	0.472	0.525	0.464
	EMOT9	0.695	0.305	0.444	0.322	0.243	0.298	0.325	0.402	0.325
	IMOT1	0.284	0.695	0.374	0.396	0.264	0.430	0.248	0.349	0.392
	IMOT2	0.395	0.830	0.423	0.404	0.398	0.511	0.280	0.391	0.531
Intrinsic Motivation	IMOT3	0.396	0.851	0.527	0.596	0.498	0.519	0.338	0.486	0.484
	IMOT4	0.334	0.746	0.388	0.406	0.362	0.440	0.317	0.405	0.479
	IMOT5	0.565	0.795	0.601	0.428	0.417	0.524	0.398	0.486	0.524
	IMOT6	0.469	0.817	0.448	0.423	0.387	0.497	0.360	0.380	0.565
	IMOT7	0.470	0.747	0.490	0.618	0.504	0.586	0.242	0.441	0.602
	IMOT8	0.506	0.751	0.471	0.435	0.456	0.509	0.447	0.504	0.444
	IMOT9	0.347	0.761	0.323	0.406	0.448	0.465	0.221	0.378	0.492
	QC1	0.514	0.549	0.819	0.537	0.504	0.569	0.436	0.454	0.476
	QC2	0.341	0.409	0.867	0.485	0.432	0.522	0.542	0.507	0.468
Quality Culture	QC3	0.437	0.496	0.859	0.452	0.383	0.514	0.533	0.560	0.436
	QC4	0.493	0.503	0.821	0.470	0.464	0.649	0.379	0.433	0.465

Table 4.18 (Continued)

Variables/ Dimensions	Item	EMOT	IMOT	QC	ACC	RP	SP	TFL	TNL	TP
Accreditation	ACC1	0.261	0.480	0.530	0.839	0.504	0.483	0.252	0.289	0.469
	ACC2	0.259	0.472	0.479	0.882	0.564	0.484	0.243	0.332	0.453
	ACC3	0.310	0.531	0.521	0.877	0.486	0.542	0.308	0.315	0.565
	ACC4	0.317	0.519	0.440	0.819	0.475	0.392	0.236	0.249	0.483
	ACC5	0.368	0.532	0.512	0.885	0.605	0.506	0.320	0.337	0.603
Research Performance	RP1	0.435	0.467	0.399	0.465	0.848	0.473	0.312	0.363	0.491
	RP2	0.358	0.446	0.446	0.480	0.868	0.525	0.279	0.304	0.509
	RP3	0.374	0.509	0.459	0.535	0.902	0.626	0.402	0.358	0.597
	RP4	0.242	0.395	0.444	0.499	0.812	0.543	0.267	0.305	0.522
	RP5	0.340	0.492	0.531	0.643	0.887	0.690	0.291	0.368	0.709
Service Performance	SP4	0.339	0.433	0.419	0.410	0.519	0.783	0.225	0.216	0.546
	SP5	0.330	0.534	0.450	0.474	0.514	0.798	0.279	0.370	0.540
	SP6	0.430	0.564	0.573	0.512	0.616	0.843	0.340	0.387	0.545
	SP7	0.383	0.592	0.586	0.522	0.581	0.847	0.421	0.435	0.584
	SP8	0.516	0.486	0.642	0.374	0.534	0.807	0.376	0.398	0.482
	SP9	0.205	0.367	0.400	0.274	0.336	0.653	0.227	0.241	0.427
	SP10	0.351	0.546	0.602	0.543	0.648	0.811	0.265	0.353	0.619
	SP11	0.410	0.524	0.553	0.434	0.522	0.832	0.417	0.405	0.540
	SP12	0.491	0.589	0.622	0.482	0.557	0.844	0.439	0.409	0.566

Table 4.18 (Continued)

Variables/ Dimensions	Item	EMOT	IMOT	QC	ACC	RP	SP	TFL	TNL	TP
Service Performance	SP13	0.426	0.531	0.607	0.543	0.587	0.828	0.376	0.399	0.601
	SP14	0.387	0.557	0.556	0.445	0.531	0.820	0.287	0.336	0.510
	SP15	0.274	0.364	0.353	0.301	0.391	0.681	0.133	0.174	0.442
Transformational Leadership	TFL1	0.119	0.157	0.310	0.110	0.065	0.064	0.789	0.390	0.076
	TFL2	0.415	0.352	0.466	0.223	0.303	0.334	0.847	0.475	0.347
	TFL3	0.254	0.312	0.431	0.280	0.260	0.274	0.825	0.402	0.265
	TFL4	0.302	0.427	0.475	0.308	0.312	0.355	0.811	0.550	0.353
	TFL5	0.367	0.392	0.463	0.398	0.433	0.460	0.774	0.454	0.436
	TFL6	0.341	0.348	0.522	0.345	0.343	0.397	0.849	0.499	0.393
	TFL7	0.324	0.335	0.508	0.138	0.316	0.376	0.792	0.588	0.298
Transactional Leadership	TNL1	0.402	0.451	0.480	0.265	0.285	0.332	0.522	0.876	0.367
	TNL2	0.373	0.459	0.499	0.295	0.346	0.390	0.440	0.861	0.349
	TNL3	0.395	0.474	0.454	0.264	0.338	0.357	0.532	0.854	0.312
	TNL4	0.442	0.511	0.575	0.400	0.395	0.433	0.555	0.874	0.406
Teaching Performance	TP1	0.460	0.519	0.436	0.335	0.477	0.549	0.310	0.466	0.680
	TP2	0.316	0.458	0.474	0.516	0.538	0.523	0.398	0.342	0.854
	TP3	0.459	0.636	0.504	0.571	0.578	0.628	0.307	0.329	0.849
	TP4	0.300	0.443	0.424	0.442	0.505	0.466	0.278	0.293	0.835
	TP5	0.303	0.565	0.398	0.557	0.593	0.564	0.279	0.274	0.854

4.8.3.3 Heterotrait-Monotrait Ratio (HTMT)

HTMT is based on the estimation of the correlation between the constructs. Discriminant validity is established based on the HTMT ratio. However, the threshold value for HTMT has been debated in existing literature; Kline (2011) suggested a threshold value of 0.85 or less, while Teo et al. (2008) recommend a liberal threshold of .90 or less. The HTMT ratio for all constructs as shown in Table 4.19, is far less than the required threshold value of .90. Therefore, discriminant validity is also established with the HTMT approach.

Table 4.19

Discriminant Validity – HTMT

	EMOT	IMOT	QC	ACC	RP	SP	TFL	TNL	TP
EMOT									
IMOT	<i>0.611</i>								
QC	0.628	<i>0.648</i>							
ACC	0.406	0.643	<i>0.649</i>						
RP	0.462	0.581	0.593	<i>0.664</i>					
SP	0.533	0.683	0.736	0.595	<i>0.705</i>				
TFL	0.435	0.442	0.630	0.345	0.391	<i>0.426</i>			
TNL	0.544	0.604	0.663	0.391	0.436	0.470	<i>0.653</i>		
TP	0.526	0.717	0.632	0.664	0.731	0.735	0.428	<i>0.474</i>	

Note: Bold and Italics represent the values of HTMT ratio.

4.8.4 Reliability and Validity of Higher Order Constructs

Following Sarstedt et al.'s (2019) recommendations, this study also verified higher-order constructs (HOCs) using the reflective-reflective measurement model. The results confirmed the reliability and convergent validity of all constructs, with reliability values

surpassing the 0.70 threshold (Hair et al., 2017) and AVE values exceeding 0.50 (Barclay et al., 1995; Wasko & Faraj, 2005), as depicted in Table 4.20.

Table 4.20

Higher Order Construct (HOC) – Reliability and Convergent Validity

	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
HEP	0.865	0.917	0.786
LS	0.745	0.887	0.797
MOT	0.705	0.871	0.772
QC	0.862	0.907	0.708
ACC	0.913	0.935	0.741

Note: HEP: Higher Education Performance, LS: Leadership Styles, MOT: Motivation, QC: Quality Culture, ACC: Accreditation

Additionally, the assessment of discriminant validity for HOCs, based on the Fornell and Larcker (1981) criterion, demonstrated that the square root of the AVE for the constructs exceeded their correlations with all other constructs (see Table 4.21).

Table 4.21

Higher Order Construct Discriminant Validity – Fornell-Larcker

	HEP	LS	MOT	QC	ACC
HEP	0.887				
LS	0.507	0.893			
MOT	0.691	0.577	0.878		
QC	0.670	0.639	0.636	0.841	
ACC	0.673	0.377	0.541	0.579	0.861

Note: HEP: Higher Education Performance, LS: Leadership Styles, MOT: Motivation, QC: Quality Culture, ACC: Accreditation

Furthermore, the HTMT values (see Table 4.22) were below 0.90 (Gold et al., 2001; Teo et al., 2008). These results affirm that all HOCs meet their respective threshold

values for reliability, convergent validity, and discriminant validity, thereby establishing their overall reliability and validity. Consequently, the initial measurement model tests have yielded satisfactory results, instilling confidence for subsequent analyses.

Table 4.22

Higher Order Construct Discriminant Validity – HTMT

	HEP	LS	MOT	QC	ACC
HEP					
LS	0.630				
MOT	0.874	0.792			
QC	0.765	0.799	0.812		
ACC	0.758	0.455	0.668	0.649	

Note: HEP: Higher Education Performance, LS: Leadership Styles, MOT: Motivation, QC: Quality Culture, ACC: Accreditation

4.9 Structural Model Assessment

As discussed above, this study seeks to investigate the links between leadership styles, accreditation, motivation, and higher education performance, with a focus on quality culture as a mediator in Pakistani universities. To achieve this, PLS-SEM has been employed, which is a valuable tool for unraveling intricate relationships between variables. Within PLS-SEM, the structural model is the second phase, often referred to as the "inner model." It starts by checking for potential collinearity problems among predictor constructs before moving on to test hypotheses involving latent variables. This phase also examines key aspects such as the significance and strength of path coefficients, the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2) (Hair et al., 2017).

4.9.1 Collinearity Assessment

“When two or more predictors measure the same underlying construct, or a facet of such construct, they are said to be collinear”(Kock, 2015, 2017). The measure of collinearity is known as the variance inflation factor (VIF) and is defined as the reciprocal of the tolerance (Hair et al., 2017). If the values of the variance inflation factor (VIF) are greater than 5, there could be critical collinearity problems, between 3 and 5, the collinearity problems are generally not critical, and if the VIF values are less than 3, there are no collinearity problems (Hair et al., 2021). The analysis of the VIF values (See Table 4.23) indicated that quality culture, leadership styles, accreditation and motivation had no collinearity issues with higher education performance. Similarly, leadership styles, accreditation, and motivation had no collinearity issues with quality culture. Since the inner VIF values of all exogenous variables in relation to endogenous variables are between 1.443 and 2.357, which is well below the conservative threshold of 3, it can be concluded that multicollinearity is not an issue in our data.

Table 4.23

Inner VIF Values (n=105)

	Higher Education Performance	Quality Culture
Quality Culture	2.357	
Leadership Styles	1.858	1.516
Accreditation	1.647	1.443
Motivation	2.014	1.861

4.9.2 Hypotheses Testing

In PLS-SEM, a bootstrap procedure was employed to evaluate the significance of coefficients and assess relationships among study variables. Bootstrap entails drawing random samples (with replacement) from the data, estimating the path model multiple times with slight data variations (Hair et al., 2017). In this study, a bootstrap procedure was executed using 5,000 bootstrap samples, as recommendation (Hair et al., 2017). Path coefficients (β) represent standardized estimates of expected relationships between constructs, typically ranging from -1 to +1 (Hair et al., 2017). The t-value determines the statistical significance of a path coefficient, dependent on the critical value. If the t-value exceeds the critical value, the coefficient is considered statistically significant at a specific significance level. Hair et al. (2017) suggest three common critical values for two-tailed tests: 1.65 (10% significance level), 1.96 (5% significance level), and 2.57 (1% significance level). As a rule of thumb, for sample sizes below 1,000, path coefficients (β) with standardized values above 0.20 are typically deemed significant, whereas values below 0.10 are generally considered insignificant.

4.9.2.1 Direct Relationships

The present study aimed to examine the relationships between leadership style, accreditation, motivation, and higher education performance, with quality culture as a mediator. To dissect these relationships, ten hypotheses were proposed, seven of which center on direct associations. The structural (internal) model shown in Figure 4.2 presents the direct relationships hypothesized in this study.

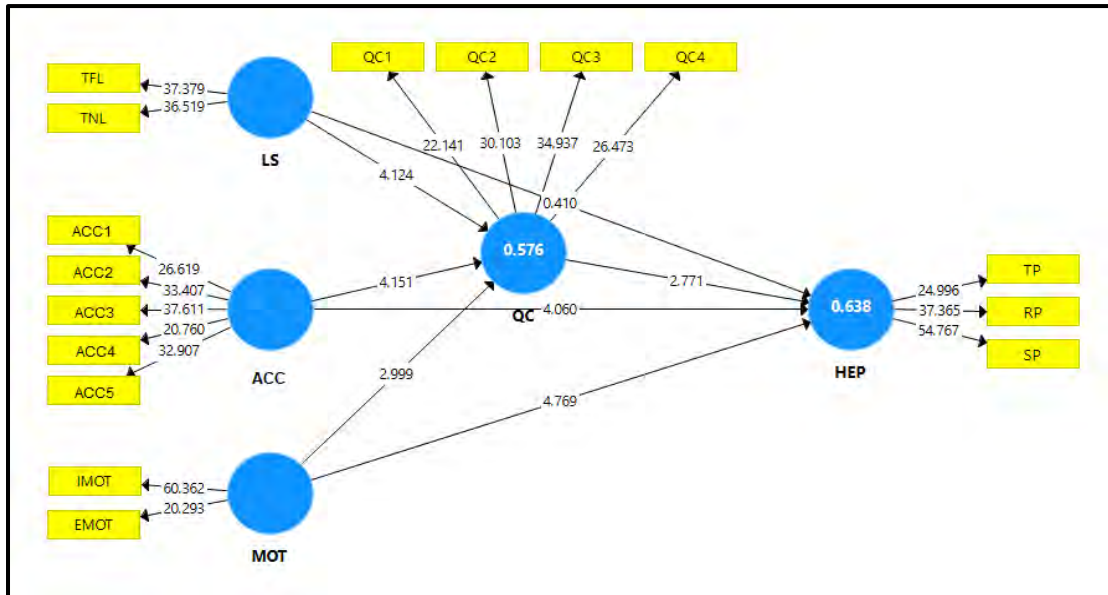


Figure 4.2

Path Model Significance Results (t-values): Direct Relationship

The hypotheses from $H_1 - H_7$ represent the direct relationships between the exogenous variables, and the endogenous variable. The first hypothesis (H_1) evaluates whether leadership styles have a significant and positive relationship with higher education performance. The results indicated that leadership styles has insignificant relationship with higher education performance ($\beta = 0.033$, $t = 0.410$, $p < 0.05$). Hence, H_1 was not supported. The second hypothesis (H_2) evaluates whether accreditation has a significant and positive relationship with higher education performance. The results showed that accreditation has a significant and positive relationship with higher education performance ($\beta = 0.342$, $t = 4.060$, $p < 0.01$). Therefore, H_2 was supported. Similarly, the third hypothesis (H_3) evaluates whether motivation has a significant and positive relationship with higher education performance. The results revealed that there is a significant and positive relationship between motivation and higher education performance ($\beta = 0.342$, $t = 4.769$, $p < 0.01$). Thus, H_3 was supported.

Next, the hypothesis (H₄) evaluates whether leadership styles have a significant and positive relationship with quality culture. The results showed that leadership styles has a significant and positive relationship with quality culture ($\beta = 0.381$, $t = 4.124$, $p = 0.01$). Therefore, H₄ was supported. Then, the hypothesis (H₅) evaluates whether accreditation has a significant and positive relationship with quality culture. The results revealed that accreditation has a significant and positive relationship with quality culture ($\beta = 0.295$, $t = 4.151$, $p < 0.000$). Hence, H₅ was supported.

Likewise, the hypothesis (H₆) evaluates whether motivation has a significant and positive relationship with quality culture. The results found that there is a significant and positive relationship between motivation and quality culture ($\beta = 0.255$, $t = 2.999$, $p < 0.003$). So, H₆ was supported. Besides, the seventh hypothesis (H₇) evaluates whether quality culture has a significant and positive relationship with higher education performance. The results showed that there is a significant and positive relationship between quality culture and higher education performance ($\beta = 0.229$, $t = 2.771$, $p < 0.006$). Therefore, H₇ was supported. The results of all direct relationships (Hypotheses 1 to 7) including path coefficients, t-values, p-values, significance levels and decision of all direct relationships is provided in Table 4.24

Table 4.24*Significance Results of the Structural Model Path Coefficients*

Hypotheses	Relationship	Path Coefficient	t-values	p-values	Sig. Level	Decision
H ₁	LS -> HEP	0.033	0.410	0.682	-	Not Supported
H ₂	ACC -> HEP	0.342	4.060	0.000	***	Supported
H ₃	MOT -> HEP	0.342	4.769	0.000	***	Supported
H ₄	LS -> QC	0.381	4.124	0.000	***	Supported
H ₅	ACC -> QC	0.295	4.151	0.000	***	Supported
H ₆	MOT -> QC	0.255	2.999	0.003	***	Supported
H ₇	QC -> HEP	0.229	2.771	0.006	***	Supported

Note: *P < .10; **P < .05; *** P < .01

4.9.2.2 Indirect Relationships (Mediation)

A mediation model is one that describes how, or by what means, an independent variable (X) affects a dependent variable (Y) through one or more potential mediating variables (M) (Preacher & Hayes, 2008a). A mediator is a variable that explains the relationship between the predictor and the criterion variables, while also answering the question of why such effects occur (Baron & Kenny, 1986).

A mediator variable is added to describe the relationship more precisely between the predictors and the criterion variables (Bennett, 2000). Furthermore, it is argued that the mediator provides the missing link between two variables that might have a potential role (Yu & Choi, 2014). In a mediation, a change in the exogenous variable results in a change in the mediating variable, which in turn causes changes in the endogenous variable in PLS path model (Hair et al., 2017). The mediating effect can also be described in terms of indirect effects, “indirect effects are those relationships that

involve a sequence of relationships with at least one intervening construct involved” (Hair et al., 2017).

As for the mediation analysis tests, the Baron-Kenny causal step approach has gained much more popularity in earlier literature. The causal step approach stipulated three mandatory conditions to establish whether there is a mediation effect between the predictor and criterion variables (Baron & Kenny, 1986). The first condition is that if the independent variable (X) has a significant effect on the dependent variable (Y) called path "c", the researcher cannot continue if the relationship is not significant. Second, if the independent variable (X) is significantly related to the mediating variable (M), called path "a". Third, if the mediator (M) is significantly associated with the dependent variable (Y), called path "b". Once these conditions are met, a mediation analysis can be performed to assess the indirect effect (Baron & Kenny, 1986). They further argued that the mediation effect is stronger when there is an indirect effect but no direct effect, also known as "total mediation". Instead, when there are both indirect and direct effects, they call it "partial mediation" (Baron & Kenny, 1986).

While the causal step approach has attracted much attention from researchers, it has been heavily criticized in the recent mediation literature for several limitations, including: (1) the approach lacks statistical power; (2) the approach does not allow to directly test the significance of a specific indirect effect; (3) the informal approach does not quantify the magnitude of the mediation effect nor does it accommodate models with inconsistent mediation (Hayes, 2009; Mackinnon et al., 2000; MacKinnon et al., 2002; Rungtusanatham et al., 2014). In addition, since causal approach asks researchers to test relationship between (X) and (Y) as pre-requisite prior to mediation analysis,

several mediating relationships were either rejected or terminated prematurely (Hayes, 2009). In view of Aguinis et al. (2016), the practice of testing direct effects violates the basic principle of parsimony and encourages researchers to evaluate models contrary to theory. Therefore, many researchers have suggested avoiding the causal approach of mediation analysis in their studies (Aguinis et al., 2016; Hayes, 2009; Rucker et al., 2011).

The present study has employed the procedure of Preacher and Hayes (2004, 2008) to test the significance of the indirect effect of (ax b), rather than the causal approach which have several assumptions as discussed above. The researchers also recommended adopting the approach of Preacher and Hayes (2004, 2008) and bootstrapping the sampling distribution of the indirect effect (Memon et al., 2018). The bootstrap procedure is a non-parametric inferential technique that randomly draws subsamples (e.g., 5,000) with substitution from the original data set (Hair et al., 2017). If the indirect effect is statistically significant ($t\text{-value} > 1.96$, two-tailed, $p < 0.05$), it means that there is strong evidence of mediation in the study (Preacher & Hayes, 2004; Zhao et al., 2010). In addition, the practice of reporting mediation results as “Full or Complete Mediation”, and “Partial Mediation” in social sciences is discouraged. For example, many researchers argued that asserting complete mediation would likely discourage researchers from examining other theoretically driven mediators, which in turn may unnecessarily restrict theory development (Hayes, 2009; Rucker et al., 2011; Rungtusanatham et al., 2014). Therefore, the use of terms such as full and partial mediation should be avoided when developing a mediation hypothesis or interpreting mediation effects (Hayes, 2013; Hayes & Rockwood, 2017; Rungtusanatham et al., 2014). Given the discussion above, in this study, if the indirect effect is found to be

significant, the hypothesis decision will be declared "Supported", meaning mediation exists, and if the indirect effect is found to be insignificant, the hypothesis decision will be declared as "Not Supported" means there is no mediation.

There was a total of three hypotheses to determine the mediating effect of quality culture on the relationship between independent and dependent variables. The first mediation hypothesis (H_8) evaluates whether leadership styles have an indirect effect on higher education performance through quality culture. The results (See Table 4.25) revealed that the total effect of leadership styles on higher education performance was insignificant ($\beta = 0.120$, $t = 1.733$, $p > 0.05$). Similarly, with the inclusion of the mediating variable (quality culture), the direct effect of leadership styles on higher education performance was also insignificant ($\beta = 0.033$, $t = 0.410$, $p > 0.05$). However, the indirect effect of leadership styles on higher education performance was significant through quality culture ($\beta = 0.087$, $t = 2.104$, $p < 0.05$). Given the explanation of Preacher and Hayes (2004, 2008), even though the total effect and the direct effect were not significant, the indirect effect of leadership styles on higher education performance via quality culture is significant. Therefore, H_8 was supported.

Table 4.25

Mediation Results – Hypothesis No. 8

Total Effect (LS -> HEP)		Direct effect (LS -> HEP)		Indirect Effect (LS -> QC -> HEP)			
Coefficient	P-Value	Coefficient	P-Value	Coefficient	SD	T value (Bootstrap)	P-Value
0.120	0.083	0.033	0.682	0.087	0.041	2.104	0.035

The second mediation hypothesis (H_9) evaluates whether accreditation has an indirect effect on higher education performance through quality culture. The results (See Table 4.26) revealed that the total effect of accreditation on higher education performance was significant ($\beta = 0.409, t = 5.116, p < 0.01$). Similarly, with the inclusion of the mediating variable (quality culture), the direct effect of accreditation on higher education performance was still significant ($\beta = 0.342, t = 4.060, p < 0.01$). Besides, the indirect effect of accreditation on higher education performance was also significant ($\beta = 0.067, t = 2.364, p < 0.05$). This shows that quality culture mediates the relationship between accreditation and higher education performance, since the total effect, the direct effect, and the indirect effect were all significant. Therefore, H_9 was supported.

Table 4.26

Mediation Results – Hypothesis No. 9

Total Effect (ACC -> HEP)		Direct effect (ACC -> HEP)		Indirect Effect (ACC -> QC -> HEP)			
Coefficient	P-Value	Coefficient	P-Value	Coefficient	SD	T value (Bootstrap)	P-Value
0.409	0.000	0.342	0.000	0.067	0.028	2.364	0.018

The third mediation hypothesis (H_{10}) was about whether motivation has an indirect effect on higher education performance through quality culture. The results (See Table 4.27) revealed that the total effect of motivation on higher education performance was significant ($\beta = 0.401, t = 5.527, p < 0.01$). Similarly, with the inclusion of the mediating variable (quality culture), the direct effect of motivation on higher education performance was still significant ($\beta = 0.342, t = 4.769, p < 0.01$). Besides, the indirect effect of motivation on higher education performance was also significant ($\beta = 0.058, t = 2.010, p < 0.05$). This indicates that quality culture mediates the relationship between

motivation and higher education performance, since the total effect, the direct effect, and the indirect effect were all significant. Therefore, H₁₀ was also supported.

Table 4.27

Mediation Results – Hypothesis No. 10

Total Effect (MOT-> HEP)		Direct effect (MOT -> HEP)		Indirect Effect (MOT -> QC -> HEP)			
Coefficient	P-Value	Coefficient	P-Value	Coefficient	SD	T value (Bootstrap)	P-Value
0.401	0.000	0.342	0.000	0.058	0.029	2.010	0.044

Besides, the results of all hypotheses involving direct relationships (See Table 4.28) and indirect relationship through quality culture as a mediating variable in relation to leadership styles, accreditation, motivation, and higher education performance are summarized in Table 4.29

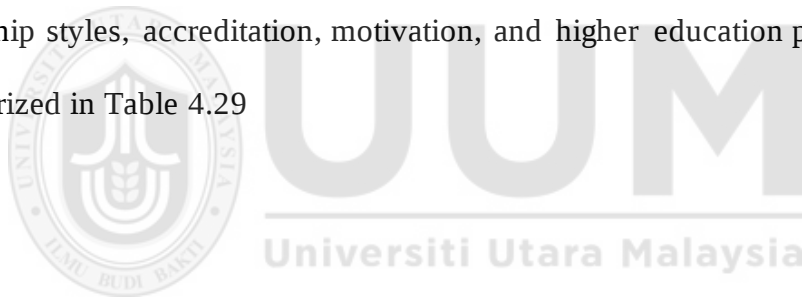


Table 4.28*Summary of Direct Relationship Results (Hypotheses 1 to 7)*

Hypotheses	Original Sample (O)	Standard Deviation (STDVE)	T Statistics	P-Values	Decision
H ₁ : LS -> HEP	0.033	0.081	0.410	0.682	Not Supported
H ₂ : ACC -> HEP	0.342	0.084	4.060	0.000	Supported
H ₃ : MOT -> HEP	0.342	0.072	4.769	0.000	Supported
H ₄ : LS -> QC	0.381	0.092	4.124	0.000	Supported
H ₅ : ACC -> QC	0.295	0.071	4.151	0.000	Supported
H ₆ : MOT -> QC	0.255	0.085	2.999	0.003	Supported
H ₇ : QC -> HEP	0.229	0.082	2.771	0.006	Supported

Table 4.29*Summary of Indirect Relationship Results (Hypotheses 8 to 10)*

Hypotheses	Total Effect		Direct effect		Indirect Effects				Decision
	Coefficient	P-Value	Coefficient	P-Value	Coefficient	SD	T value (Bootstrap)	P-Values	
H ₈ : LS -> QC -> HEP	0.120	0.083	0.033	0.682	0.087	0.041	2.104	0.035	Supported
H ₉ : ACC -> QC -> HEP	0.409	0.000	0.342	0.000	0.067	0.028	2.364	0.018	Supported
H ₁₀ : MOT -> QC -> HEP	0.401	0.000	0.342	0.000	0.058	0.029	2.010	0.044	Supported

4.9.3 Path Coefficient Analysis

4.9.3.1 Coefficient of Determination (R^2)

The quality of the structural model can be evaluated through coefficient of determination (R^2) that shows how much of the variance in the endogenous variable can be explained by the exogenous variables. Falk and Miller (1992) have proposed a R^2 value of 0.10 as minimum acceptable. According to Chin (1998), values of the coefficient of determination (R^2) of 0.67 are considered substantial, 0.33 moderate and 0.19 weak for endogenous latent variables. However, some researchers have suggested that R^2 values of 0.75 are considered substantial, 0.50 moderate, and 0.25 weak for endogenous latent variables as a rough rule of thumb in scholarly articles dealing with marketing issues (Hair et al., 2011, 2013).

Taking into account the R^2 values recommended by (Chin, 1998; Hair et al., 2011, 2013), the results revealed a moderate coefficient of determination ($R^2 = .638$) on the higher education performance in this study. The R^2 value indicated that almost 64% of higher education performance could be explained by variables including leadership styles, accreditation, motivation, and quality culture. This means that the remaining 36% of the variance can be explained by other factors that are beyond the scope of this study. Similarly, the coefficient of determination ($R^2 = .576$) for quality culture was also found to be moderate. The R^2 value quantified that around 58% of the quality culture could be explained by variables such as leadership styles, accreditation, and motivation. In other words, the remaining 42% of the variance can be explained by other factors that are beyond the scope of this study.

The R^2 values for both higher education performance and quality culture represent the degree to which the variables within the current study model clarify the variability in these respective outcomes. When these R^2 values are compared, it becomes apparent that the study model accounts for a somewhat greater proportion of the variance in higher education performance (64%) as opposed to quality culture (58%). These results suggest that, in the context of this study, the relationships involving leadership styles, accreditation, motivation, and quality culture exert a relatively stronger influence in explaining higher education performance when compared to the influence of leadership styles, accreditation, and motivation in explaining quality culture.

4.9.3.2 Effect Size (f^2)

The primary aim of this study was to investigate how leadership styles, accreditation, and motivation relate to higher education performance, with quality culture acting as a mediator. In pursuit of this objective, the study additionally assessed the effect sizes of all the exogenous (independent) variables on the endogenous (dependent) variables. Effect size (f^2) is another important quality criterion used to determine the change in the R^2 value when a specific exogenous (independent) variable is omitted from the model (Hair et al., 2017). Further, the values of f^2 are used to explain whether the omitted variable has a substantial effect on the endogenous variable (Hair et al., 2017). The values of 0.02 (small), 0.15 (medium) and 0.35 (large) can be used as guidelines for assessing f^2 effect sizes (Cohen, 1988; Hair et al., 2017). The f^2 values (effect sizes) for all exogenous (independent) variables in direct relation to two endogenous (dependent) variables are summarized in Table 4.30

Table 4.30*Effect Size – f^2 Values*

Relationship	Effect Size (f^2)
LS -> HEP	0.002
ACC -> HEP	0.196
MOT -> HEP	0.161
QC -> HEP	0.061
LS -> QC	0.225
ACC -> QC	0.142
MOT -> QC	0.082

In the provided table, the effect sizes (f^2) for all exogenous variables, which include leadership styles, accreditation, motivation, and quality culture, on the endogenous variable, higher education performance, are as follows: 0.002, 0.196, 0.161, and 0.061, respectively. These (f^2) values offer insights into the magnitude of the impact that each of these variables has on higher education performance. Notably, among these variables, accreditation stands out with the highest f^2 value (0.196), signifying a relatively robust influence in explaining the variability in higher education performance within the model. Motivation also demonstrates a moderate effect (0.161), while leadership styles and quality culture have comparatively smaller effects (0.002 and 0.061, respectively).

Similarly, the effect size values (f^2) for all exogenous variables, which include leadership styles, accreditation, and motivation, on the endogenous variable, quality culture, are as follows: 0.225, 0.142, and 0.082, respectively. These (f^2) values offer insights into the magnitude of the impact that each of these variables has on quality culture. Among these, leadership styles have the highest f^2 value (0.225), indicating a

relatively strong impact on quality culture. Accreditation also has a notable effect (0.142), while motivation has a smaller effect (0.082).

In conclusion, the purpose of calculating the effect size (f^2) was to gain insights into which variables within the research objective exerted the most significant influence on higher education performance and quality culture. The findings of this study suggest that accreditation has a relatively robust impact on both outcomes, while leadership styles and motivation also played significant roles, although their effects varied. These effect size values offer valuable insights for prioritizing and interpreting the significance of variables (specifically, leadership styles, accreditation, motivation, and quality culture) within the context of higher education in Pakistan.

4.9.4 Predictive Relevance (Q^2)

Apart from determining R^2 values for predictive accuracy, there is another quality criterion that researchers should employ, namely the Stone-Geisser Q^2 value (Geisser, 1974; Stone, 1974). In the structural model, if the Q^2 values for a specific reflective endogenous latent variable are greater than zero, the path model is considered to have predictive relevance for a particular dependent construct (Hair et al., 2017). In PLS-SEM, a blindfolding procedure with a specified omission distance D is used to obtain Q^2 values. In the blindfold technique, each d th data point in the indicators of the endogenous construct is skipped and then parameter estimation is performed with the remaining data points (Chin, 1998; Henseler et al., 2009). The blindfolding procedure resulted in two types of Q^2 values based on the form of prediction, Cross-validated Redundancy and Cross-validated Communality (Fornell & Cha, 1994). However, researchers suggested using Cross-validated Redundancy since it examines the

predictive relevance of the theoretical or structural model (Chin, 1998). If the Cross-validated Redundancy values are greater than 0, it indicates that the predictive relevance is established, but if it is less than 0, it means that the model lacks predictive relevance (Fornell & Cha, 1994).

The blindfolding procedure was conducted with an omission distance ($D=8$). The outcomes revealed Q^2 values, which signify predictive relevance and cross-validated redundancy, for the endogenous variables, including HEP and QC are 0.479 and 0.394, respectively. These values are greater than zero, affirming the model's established predictive relevance. Specifically, a Q^2 value of 0.479 demonstrates that the research model, encompassing leadership styles, accreditation, motivation, and quality culture, can predict approximately 47.9% of the variance in higher education performance. This suggests a relatively strong predictive relevance of the model in explaining or forecasting higher education performance based on the included variables.

Likewise, a Q^2 value of 0.394 indicates that the research model, which comprises leadership styles, accreditation, and motivation, can predict approximately 39.4% of the variance in quality culture. This finding implies that the model possesses reasonably good predictive relevance for elucidating or forecasting quality culture based on the predictive variables. The resulting Q^2 values (predictive relevance-cross-validated redundancy) are presented in Table 4.31.

Table 4.31*Predictive Relevance – Cross-validated Redundancy*

Endogenous Variables	Q ² (=1-SSE/SSO)
HEP	0.479
QC	0.394

In summary, the Q² values play a vital role in assessing the model's ability to predict or explain the variances observed in both higher education performance and quality culture, which are core aspects of the research objective. These values offer quantitative proof of the model's predictive strength and its proficiency in uncovering the links among the selected study variables within the context of higher education in Pakistan.

In a similar vein, the Q² values, representing cross-validated communality, were calculated for all variables (HEP, LS, MOT, ACC, and QC), resulting in values of 0.541, 0.350, 0.297, 0.601, and 0.501, respectively. These values, all greater than zero, affirm the model's predictive relevance. Given that the research objective aimed to examine the relationships among leadership styles, accreditation, motivation, and higher education performance, with quality culture as a mediator, these Q² values are crucial indicators assessing how effectively the model, including these variables, explains the shared variance among them.

For instance, a Q² value of 0.541 indicates the model can explain approximately 54.1% of the shared variance among higher education performance and other variables. Similarly, a Q² value of 0.350 suggests the model accounts for around 35% of the shared variance among leadership styles and other variables. Regarding motivation, a Q² value of 0.297 implies the model captures about 29.7% of the shared variance among

motivation and other variables. Furthermore, a Q^2 value of 0.501 demonstrates the model effectively elucidates approximately 50.1% of the shared variance among quality culture and the other variables. Notably, accreditation stands out with the highest Q^2 value among all variables, at 0.601. This indicates the model adeptly explains roughly 60.1% of the shared variance between accreditation and the other variables. The resulting Q^2 values (predictive relevance-cross-validated communality) are presented in Table 4.32.

Table 4.32

Predictive Relevance – Cross-validated Communality

Construct	$Q^2 (=1-SSE/SSO)$
HEP	0.541
LS	0.350
MOT	0.297
QC	0.501
ACC	0.601

To summarize, the Q^2 values serve as a valuable tool for evaluating how effectively the research model captures the shared variance among the study variables. These values offer quantitative evidence of the model's predictive relevance and its ability to elucidate the relationships among leadership styles, accreditation, motivation, quality culture, and higher education performance, aligning perfectly with the research objective of the study.

4.10 Chapter Summary

This chapter covered a variety of tests essential to thoroughly analyze the data. Initially, preliminary tests were performed to prepare the data, including the identification of missing values and outliers, and the evaluation of multivariate assumptions. These assumptions encompassed assessment of data normality (skewness and kurtosis), testing for multicollinearity, and examination of nonresponse and common method bias. Because these tests were generic in nature and relatively simple, the IBM Statistical Package for the Social Sciences (SPSS Version-25) was employed for statistical data analysis. Subsequently, given the complexity of the structural and measurement models, a more advanced software, SmartPLS (version 3.3.9), was used for in-depth data analysis. The evaluation process in PLS-SEM encompassed two main steps. First, the measurement model (outer model) was evaluated to establish internal consistency, reliability, convergent validity, and discriminant validity for first- and second-order constructs. Second, the evaluation of the structural model (inner model) was performed using the PLS algorithm. The objective was to determine path coefficients and effect sizes for several latent variables and to validate the hypothesized relationships, which included both direct and indirect connections between latent variables, a bootstrapping procedure was employed. In addition, some specific quality criteria for determining values such as R^2 , f^2 , and Q^2 were evaluated using a blindfold test. Of the ten hypotheses originally formulated, the results supported nine of them, while one hypothesis received no empirical support. The findings presented in this chapter have been meticulously interpreted and are discussed in detail in the following chapter titled “Discussions, Recommendations and Conclusion.”

CHAPTER FIVE

DISCUSSIONS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This chapter discusses the findings of the previous chapter, followed by the limitations and implications of the study, makes recommendations for future researchers, and finally presents the conclusion. This chapter begins with an overview of the entire research, including the research design, research framework, underlying theory, research questions, objectives, and hypotheses. This is followed by a discussion of the findings against each hypothesized relationship. Subsequently, the limitations and implications of the study in terms of theoretical and practical implications are also presented. Finally, this chapter provides suggestions for future researchers and ends by presenting the conclusion of the study.

5.2 Recapitulation of the Study

The researcher of this study aimed to investigate the effects of leadership styles, accreditation, and motivation on higher education performance, through quality culture. The conceptual framework under study was underpinned by the theory of RBV, and comprised of three independent variables, including; leadership styles, accreditation, and motivation; a mediating variable quality culture; and a dependent variable, higher education performance.

This study was conducted in three phases to address the ten research questions and with the aim of achieving the associated research objectives by testing the hypothesized relationships between leadership styles, accreditation, motivation, and higher education performance, through quality culture in the context of Pakistan. The first phase

consisted of an extensive literature review by critically analyzing research articles, books, theses, conference papers, websites, videos, and newspaper articles for potential gaps. The critical review of the literature enabled the current researcher to identify the strengths and weaknesses of previous studies (such as research gaps, inconsistencies, and controversies), which in turn provided an opportunity to develop the conceptual framework for the current study. In addition, the literature review also provided an opportunity to expand the limited literature, introducing some new links and contributing to existing knowledge by establishing and testing hypothetical relationships between the variables in the current study.

The second phase began with the development of a research framework based on the gaps identified during the first phase (i.e., literature review). Considering the proposed conceptual research framework underpinned by the RBV theory, the researcher developed different hypotheses. Followed by deciding on the research design and other crucial aspects such as adaptation of scales and their items for each variable/construct, the study population, the unit of analysis and the sampling units. The study population was all public and private sector universities in Pakistan, with organization (institutions) as the unit of analysis, while administrative managers (such as VCs, Deans, Directors, and HODs) served as the sampling units. Subsequently, the sample size, the sampling technique and the data collection procedure for the present study were determined. The study used the stratified random sampling technique to collect data from the administrative managers of the randomly selected universities. Furthermore, the study yields a valid response rate of 70% which is considered good. Additionally, data were collected through face-to-face and online survey methods based on a 5-point Likert scale.

In the third and final phase, the collected data were subjected to various preliminary analyses, such as data screening and cleaning to identify missing values, outliers, as well as normality tests to confirm whether the data followed a normal distribution or not. In addition, tests such as non-response bias and common method bias were also performed to confirm whether the data were free of any bias. Subsequently, descriptive statistics and respondents' profile from different demographic perspectives were also discussed. Most of these initial tests were done in SPSS (Version-25), followed by the application of the structural equation modeling techniques for multivariate data analysis. Given the objectives of the study, the limited sample size, and the non-normal nature of the data, PLS-SEM was selected as the most appropriate analysis technique for multivariate data analysis in this study. In PLS-SEM, the establishment and validation of the measurement model (or outer model) is a prerequisite for structural equation modeling. Therefore, the measurement model was initially evaluated for first and second order constructs in this study.

The purpose of assessing the measurement model was to ensure the reliability and validity of the measurement instruments (i.e., the observed variables) used to represent latent constructs/variables. For instance, reliability is typically assessed using measures like Cronbach's alpha or composite reliability. The aim was to ensure that the observed variables were consistent and dependable indicators of the underlying constructs. Likewise, the purpose of convergent validity is to assess the extent to which different observed variables that are supposed to measure the same latent construct converge or correlate with each other. The high factor loadings and AVE values indicated that the observed variables were converging effectively on the intended latent constructs,

suggesting good convergent validity. In addition, the discriminant validity of latent variables and constructs was also performed via the Fornell-Larcker criterion, the cross-loads and the HTMT ratios. The aim was to evaluate whether observed variables representing different latent constructs are distinct from each other. Then, the test of collinearity was performed before the evaluation of the structural model. The results obtained during the assessment of the measurement model, specifically in relation to reliability, convergent validity, and discriminant validity, confirmed the reliability and validity of the measurement instruments employed to depict the latent constructs and variables.

Subsequently, the structural model was subjected to evaluation within the framework of PLS-SEM. The purpose of the structural model evaluation was to meticulously examine and analyze the links between constructs or latent variables, in accordance with the hypotheses posed in the research model. Unlike the measurement model, which focuses on the quality and validity of the measurement instruments (observed variables), the structural model delves into the interrelationships between these latent constructs and their mutual influences. To achieve this objective, a bootstrap procedure within PLS-SEM was employed to examine the path coefficients and their significance, thereby determining the acceptance or rejection of the proposed hypotheses. Several other quality metrics were also considered to assess the structural model's overall quality. These metrics encompassed the coefficient of determination (R^2), the effect size (f^2), and the predictive relevance (Q^2). Among the ten initially formulated hypotheses, nine found empirical support, while one hypothesis did not align with the statistical findings. A concise summary of the research findings is presented in Table 5.1.

Table 5.1*Summary of Research Questions, Objectives, Hypotheses and Findings*

Research Questions (RQ)	Research Objectives (RO)	Research Hypotheses (RH)	Findings
RQ1: What is the relationship between leadership styles and higher education performance in Pakistani HEIs?	RO1: To examine the relationship between leadership styles and higher education performance in Pakistani HEIs.	H1: Leadership styles have a significant and positive relationship with higher education performance.	Not Supported
RQ2: What is the relationship between accreditation and higher education performance in Pakistani HEIs?	RO2: To examine the relationship between accreditation and higher education performance in Pakistani HEIs.	H2: Accreditation has a significant and positive relationship with higher education performance.	Supported
RQ3: What is the relationship between motivation and higher education performance in Pakistani HEIs?	RO3: To examine the relationship between motivation and higher education performance in Pakistani HEIs.	H3: Motivation has a significant and positive relationship with higher education performance.	Supported
RQ4: What is the relationship between leadership styles and quality culture in Pakistani HEIs?	RO4: To examine the relationship between leadership styles and quality culture in Pakistani HEIs.	H4: Leadership styles have a significant and positive relationship with quality culture.	Supported
RQ5: What is the relationship between accreditation and quality culture in Pakistani HEIs?	RO5: To examine the relationship between accreditation and quality culture in Pakistani HEIs.	H5: Accreditation has a significant and positive relationship with quality culture.	Supported
RQ6: What is the relationship between motivation and quality culture in Pakistani HEIs?	RO6: To examine the relationship between motivation and quality culture in Pakistani HEIs.	H6: Motivation has a significant and positive relationship with quality culture.	Supported
RQ7: What is the relationship between quality culture and higher education performance in Pakistani HEIs?	RO7: To examine the relationship between quality culture and higher education performance in Pakistani HEIs.	H7: Quality culture has a significant and positive relationship with higher education performance.	Supported
RQ8: Does quality culture mediate the relationship between leadership styles and higher education performance in Pakistani HEIs?	RO8: To examine the mediating effect of quality culture between leadership styles and higher education performance in Pakistani HEIs.	H8: Leadership styles have an indirect effect on higher education performance through quality culture.	Supported
RQ9: Does quality culture mediate the relationship between accreditation and higher education performance in Pakistani HEIs?	RO9: To examine the mediating effect of quality culture in relation to accreditation and higher education performance in Pakistani HEIs.	H9: Accreditation has an indirect effect on higher education performance through quality culture.	Supported
RQ10: Does quality culture mediate the relationship between motivation, and higher education performance in Pakistani HEIs?	RO10: To examine the mediating effect of quality culture on the relationship between motivation, and higher education performance in Pakistani HEIs.	H10: Motivation has an indirect effect on higher education performance through quality culture.	Supported

5.3 Discussion on Study Findings

This section discusses the findings on the direct and indirect relationships between the latent variables in this study.

5.3.1 Leadership Styles and HE Performance

The first objective of the study was to investigate the relationship between leadership styles and higher education performance in Pakistani universities. While the findings suggest a positive relationship between leadership style and higher education performance, it is noteworthy that this link did not reach statistical significance ($\beta = 0.033$, $t = 0.410$, $p < 0.05$). Therefore, the results do not provide empirical support for the link between leadership styles and performance in higher education. In short, these results mean that leadership styles do not reliably predict higher education performance in Pakistani universities.

This study has investigated the combined effect of leadership styles, encompassing both transformational and transactional approaches. The motivation behind this selection stems from a notable divergence in opinions among scholars regarding their effectiveness concerning organizational performance. Some researchers advocate for transformational leadership, emphasizing its strong association with employees and organizational performance (Al Khajeh, 2018; Hoxha, 2019; Velu et al., 2017), while others lean towards transactional leadership (Asiimwe et al., 2016; Israel, 2016; Mgeni & Nayak, 2016; Obiwuru et al., 2011). Nevertheless, some researchers emphasize the significance of an integrated leadership approach that combines both styles, rather than relying exclusively on either transformational or transactional leadership (Ohemeng et al., 2018; Saleh, Nusari, Habtoor, et al., 2018). This approach, supported by Dong

(2023), recognizes the value of incorporating multiple leadership styles to foster innovation and sustainable growth. It highlights the need for leaders to adapt their styles to fit the situation and the specific needs of their team members, acknowledging significant individual variations, as observed by Martins (2023). This perspective enjoys broad support among researchers, particularly due to the lack of conclusive evidence favoring one style over the other. Consequently, researchers are now suggesting a blend of transformational and transactional leadership styles or considering their specific dimensions based on the unique context (Khalifa & Ayoubi, 2015; Mwita & Mrema, 2023; Skopak & Hadzaihmetovic, 2022). In light of this, researchers are currently investigating how different leadership styles collectively impact organizational performance in diverse contexts (Carvalho et al., 2022; Gökalp & Soran, 2022; Haq & Kuchinke, 2016; Omira, 2015).

Regarding the results of the first hypothesis, it contradicts the prevailing literature emphasizing leadership's impact on organizational performance, thus lacking support in this study. This discrepancy is likely due to the relatively small sample size and increasing it could reveal a significant association. Additionally, contextual factors within the Pakistani university setting may have influenced the connection between leadership styles and higher education performance. Future studies in different settings could shed light on potential variations in this relationship. Nonetheless, it's noteworthy that this result is consistent with findings from other scholars. For example, Al Khajeh (2018) conducted a study examining various leadership styles in relation to organizational performance. The results revealed a negative association between transactional leadership and organizational performance. Similarly, in a study involving 50 private enterprises in Kosovo, Velu et al. (2017) found that transactional leadership

had a negative impact on employee performance, although this effect was not statistically significant. In a more recent study, Thapa and Parimoo (2022) also reported an insignificant and negative relationship between transactional leadership and organizational performance. As for transformational leadership, Obiwuru et al. (2011) found in their study that it had an insignificant relationship with performance. Furthermore, a recent study in the field of tourism indicated that the impact of transformational leadership on employee performance was neither positive nor significant. Consequently, the researchers concluded that transformational leadership did not contribute to improving employee performance in the tourism industry (Idris et al., 2022).

Jing and Avery (2008), after conducting an extensive literature review, concluded that the relationship between leadership and performance remains inconclusive due to unresolved difficulties and issues. In contrast, some researchers argue that the impact of leadership varies depending on the specific goals within organizations. Therefore, studying the influence of leadership cannot occur in isolation; it must be examined in conjunction with other influential environmental factors (Lieberson & O' Connor, 1972). Similarly, Jaffee (2001) expressed the view that theories about leadership effects are fundamentally flawed. He argued that leadership behavior might have some informal impact on organizational climate and employee sentiments but may not significantly affect organizational performance. Instead, it is influenced by organizational structure and other environmental characteristics (Jaffee, 2001).

These arguments align with and support the inclusion of quality culture as a mediator in the relationship between leadership styles, accreditation, motivation, and higher

education performance in the current study. In another investigation, researchers sought to explore the connection between leader-intended leadership (reported by leaders) and employee-perceived leadership (reported by employees) on the organizational performance of Danish public schools. Leadership practices were defined in terms of transformational and transactional leadership, and the results indicated that only employee-perceived leadership significantly correlated with organizational performance. Leader-intended leadership had only an indirect effect on organizational performance. The authors suggested that this disparity might be because leaders tend to overstate their leadership practices and perceive their leadership as more active than their employees do (Jacobsen & Andersen, 2015).

All the above studies have found insignificant results of leadership styles in relation to organizational performance. In addition, another possible explanation for the insignificant relationship between leadership styles and higher education performance in this study may be that most university leaders in Pakistan are mainly involved in administrative matters like various meetings, budget matters, seminars, and convocations etc. Therefore, they may have faced the problem of balancing teaching, research, and service roles leading to poor academic quality and performance at their respective universities. This is in line with the findings of previous researchers who argued that a gradual decline in the performance and international rankings of Pakistani universities is due to a lack of emphasis on the quality of higher education (Banuri, 2021; Murtaza & Hui, 2021; Nisar, 2019). Although HEC has asked universities to establish departments such as QEC and ORIC to promote quality and research activities, it again lacks accreditation, facilities, qualified and competent staff, and other resources. These departments usually operate on an ad hoc basis and do not play an

active role in improving university performance especially as HEC believed. Another important aspect, as highlighted in the previous literature, is that leadership styles may not have a significant relationship with organizational performance, unless or until other contextual and environmental factors are involved (Jaffee, 2001; Lieberman & O'Connor, 1972). Lastly, since the respondents in the current study were administrative managers (senior university leaders), they may have overrated their responses regarding transformational and transactional leadership practices at their respective universities, as previous researchers have already suggested (Jacobsen & Andersen, 2015).

On the contrary, there are still many researchers who found that the transformational and transactional leadership have a significant and positive impact on organizational performance (Al Khajeh, 2018; Asiimwe et al., 2016; Israel, 2016; Khan et al., 2014; Mgeni & Nayak, 2016; Noruzy et al., 2013; Saad & Abbas, 2019; Saleh, Nusari, Habtoor, et al., 2018). Similarly, in the context of higher education, Abubakar and Ahmed (2017) examined the effect of a transformational leadership on university performance in Nigeria, and the study result showed that a transformational leadership had a significant positive effect on university performance. This may be due to a different context, culture, and environment. Senior leadership in Pakistani universities face survival issues as HEC funding is minimal; therefore, their focus is on revenue generation, such as increasing student enrollment to cover administrative costs and salaries for academic and non-academic staff. While another study was conducted at Bacha Khan University, Charsadda, Pakistan, and the results revealed that all three leadership styles (including Laissez-faire, transactional leadership and transformational leadership) have a significant and positive relationship with organizational performance (Ali, 2019). However, considering the scope of this study, which is limited to a single

public sector university, its findings cannot be generalized to all public and private sector universities across Pakistan. Finally, as mentioned above, a larger sample size could also lead to a significant relationship between leadership styles and university performance.

5.3.2 Accreditation and HE Performance

The study's second objective aimed to assess the link between accreditation and higher education performance in Pakistani universities. The results revealed a notable and positive relationship between accreditation and higher education performance ($\beta = 0.342$, $t = 4.060$, $p < 0.01$). This outcome highlights accreditation as a robust predictor capable of positively influencing and enhancing higher education performance. Accreditation in this study has been operationalized in terms of all external evaluation practices also known as accreditation at the program and institutional level. Accreditation in higher education has several purposes, such as ensuring: compliance with standards, accountability and transparency, quality improvement and facilitation of student mobility (Sanyal & Martin, 2007). Considering the positive role of accreditation, this study also signifies the positive implications of accreditation on higher education performance in the context of Pakistani universities.

The findings of this study are also supported by previous researchers. For instance, Kumar et al. (2020) argued that accreditation has a significant impact on the quality and excellence of HEIs. In another study, Ulker and Bakioglu (2018) attempted to examine the influence of accreditation on academic quality based on the perceptions of self-study coordinators and program administrators in the US context. The results indicated that accreditation has a generally positive influence on academic quality and tends to

improve the processes and practices of institutions that are relatively new (20 years), compared to older ones (41 years). Similarly, Nguyen and Hien Ta (2017) examined the views of HE managers, staff, faculty, and students on the impact of accreditation on institutional quality management through a case study approach at a university in Vietnam. The findings showed that accreditation significantly affects most university activities, including programs, teaching activities, faculty, support staff, students, and facilities, which in turn improves the university's academic quality such as teaching, learning and R&D. Lastly, another study was performed to assess the relationship among HE accreditation and teaching and learning enhancement in an academic setting. The findings have shown that AACSB provides an ideal guidance framework, including the effective assessment criteria for quality of learning and universities (Makhoul, 2019).

However, since the performance and reputation of Pakistani universities is not as good as that of foreign universities, the university leadership should ensure the establishment of QEC and ORIC departments in their respective universities; to improve the quality of teaching, research, and other services for internal and external customers. In addition, the university leadership must appoint qualified and competent staff in the QEC department and ensure that the standards for both IQA (self-assessment) and EQA (accreditation) are fully and effectively implemented in the true spirit. Likewise, the staff of the ORIC department should play an active role in delivering and improving the performance of the various services, including R&D, innovation, commercialization, patents, collaborations and organization of symposiums, seminars, workshops, and conferences, etc. that ultimately lead to university performance.

5.3.3 Motivation and HE Performance

The third objective of the study was to examine the link between motivation and higher education performance in Pakistani universities. The results revealed a substantial and positive association between motivation and higher education performance ($\beta = 0.342$, $t = 4.769$, $p < 0.01$). This emphasizes the significant influence of motivation on the performance of universities in Pakistan. Furthermore, it implies that as the motivation levels of university faculty rise, so does the overall performance of universities in the country.

Although, the previous literature does not provide enough empirical evidence in support of motivation as a predictor variable in relation to organizational performance. Still, there are few qualitative and quantitative studies that can validate the results of this study. For instance, Dewi and Wibowo (2020) in their survey-based study found that motivation partially influences the performance of permanent university lecturers at an Indonesian university. In addition, some qualitative studies have also highlighted the role of motivation in relation to individual and organizational performance and are in line with the findings of this study. Geelmaale (2019) conducted a study based on a literature review to examine the influence of employee motivation on organizational performance, and the results showed that employee motivation had a positive effect on organizational performance. Similarly, Rahnuma (2020) conducted a qualitative study to assess the experience of academic and administrative leaders at a private university in Dhaka, Bangladesh; and the results showed that most teachers believe that intrinsic motivation is a way to stimulate enthusiasm for teaching, research and continuous improvement of the quality of teaching and maintenance of the level of satisfaction. Besides, Sahito and Vaisanen (2018) in their case study based on the experiences of

teacher educators (TEs) from universities in Sindh, Pakistan, showed that motivation plays a crucial role in achieving organizational goals.

Considering the relatively inadequate empirical support in the prior literature regarding relationship between motivation and higher education performance, this study is a significant discovery and provides empirical evidence that both intrinsic and extrinsic motivation can significantly influence organizational performance in the context of higher education in Pakistan. This study also highlights the important role of faculty motivation who are directly and/or indirectly involved in the provision of quality education can improve university performance in terms of teaching, research, and services in Pakistani context. Given the insufficient empirical support in the previous literature regarding the relationship between motivation and organizational performance, this result is a significant finding and provides empirical evidence that both intrinsic and extrinsic motivation can improve organizational performance in the context of higher education. This study also highlights the important role of the motivation of faculty members who are directly involved in providing quality education to students; and they also play their part in improving university performance through their contributions in terms of quality teaching, research, and services in the Pakistani context. However, as the performance of Pakistani universities is not up to par so far, university leadership should take appropriate steps to boost the motivation of faculty members and other support staff, whether through intrinsic means or extrinsic, so that they can contribute to their full potential in meeting or exceeding university goals.

5.3.4 Leadership Style and Quality Culture

The study's fourth objective aimed to assess the connection between leadership styles and quality culture within Pakistani universities. The findings demonstrated a significant and positive relationship between leadership styles and quality culture ($\beta = 0.381$, $t = 4.124$, $p < 0.01$). These results emphasize the role of university leadership in fostering a culture of quality, ultimately contributing to enhanced performance in Pakistani universities. The influence of leadership on shaping and promoting organizational culture aligns with existing literature on the subject. The researchers argued that leadership styles shape culture and that culture influences leaders (Atasoy, 2020). Meanwhile, it is also argued that the implementation of a world-class quality culture begins with the CEO of any organization (Ali, 2020).

This study provides empirical evidence on the relationship between leadership styles and quality culture, which is also in line with the findings of previous studies. According to Ali (2020), the culture of any organization relies on its top leadership, which identifies and drives the quality values in the organization through business goals, HR appraisal system, recognition and reward structure, and team development. In another study, researchers conducted a study in two Indonesian universities based on the perception of academic and non-academic staff and found that visionary leadership had a positive and significant effect on quality culture in higher education (Herminingsih et al., 2020). The researchers also found that transactional leadership greatly influences quality work culture (Ali et al., 2015). While it is also argued that the development of quality culture in higher education depends not only on university leadership (rector), but also on lecturers, students and other academic staff integrated in that environment (Mursidi et al., 2018).

5.3.5 Accreditation and Quality Culture

The fifth objective of the study was to evaluate the relationship between accreditation and quality culture in Pakistani universities. The findings indicated a noteworthy and positive relationship between accreditation and quality culture ($\beta = 0.295$, $t = 4.151$, $p < 0.01$). This underscores the significance of accreditation, which encompasses quality standards, self-assessment, and facilities like libraries, laboratories, and classrooms, as essential prerequisites for initiating any quality improvement initiatives in universities. Once accreditation is in place and quality standards for higher education are practiced, they can create and promote a culture of quality in universities. The research results provide empirical evidence that accreditation can play its role to bring about positive changes in building and promoting quality culture in universities, which in turn can improve the performance of Pakistani universities according to international standards.

The findings of previous studies fully support the results of the current study. Terra and Berssaneti (2017) conducted a qualitative study with interviews and a semi-structured survey in five public and private hospitals in Brazil. The findings showed that accreditation can advance hospital processes, leading to building a culture of quality and improving patient satisfaction. Moreover, a study was conducted in manufacturing plants of six countries and the results revealed that organizational culture has a significant relationship with infrastructure quality management practices (Naor et al., 2008). In another study researchers concluded that Pakistan should modernize its quality standards, computer labs, digital libraries, internet facilities, self-assessment of academic programs, and external evaluation or accreditation practices, etc. to promote a culture of learning among students and improve the higher education system (Murtaza

& Hui, 2021). In addition, Sharma (2018) in her study found that both assessment and accreditation build quality culture in Indian universities and evoke a positive view of HEIs towards quality improvement, which in turn also benefits other stakeholders. Lastly, Usmani and Khatoon (2016) in their study based on secondary data found that accreditation (external quality assurance through peer review/peer evaluation) has helped universities identify and meet their key performance indicators; thereby improving their national ranking and ratings in Pakistan.

5.3.6 Motivation and Quality Culture

The study's sixth objective aimed to assess the relationship between motivation and quality culture in Pakistani universities. The results unveiled a meaningful and positive relationship between motivation and quality culture ($\beta = 0.255$, $t = 2.999$, $p < 0.01$). This implies that when faculty members and other staff are motivated, whether through intrinsic or extrinsic factors, they channel their energies and efforts into cultivating and advancing a culture of quality within their respective universities. Consequently, this leads to heightened higher education performance encompassing teaching, research, and other services within the context of universities.

While previous studies have delved into the relationship between motivation and organizational culture, there exists a scarcity of evidence pertaining to the exploration of motivation within the specific context of quality culture, which itself constitutes a subset of organizational culture. Nonetheless, it is worth highlighting that the results of earlier studies, which have investigated the correlation between organizational culture and organizational performance, are in congruence with the findings of the present study. Mitreva et al. (2017) argued that motivation plays an indispensable role in

building a quality assurance system, finding new solutions, and improving business processes, therefore, top management must motivate its employees by authorizing and engaging them through recognition and rewards. Similarly, Ulum (2017) conducted a study based on a mixed methods approach to determine the perceptions of directors and staff of educational institutions about the organizational culture in their respective schools; and the results revealed that motivation is among the factors that create organizational culture. Finally, another study was carried out to investigate the relationship between teacher motivation and organizational culture of undergraduate universities in the city of Bangalore, India, and the researchers found a positive relationship between teacher work motivation and organizational culture (George & Sabhapathy, 2014).

5.3.7 Quality Culture and HE Performance

The seventh objective of the study sought to evaluate the relationship between quality culture and higher education performance in Pakistani universities. The results confirmed a meaningful and positive relationship between quality culture and higher education performance ($\beta = 0.229$, $t = 2.771$, $p < 0.01$). This means that when people at all levels (such as university leaders, faculty members, and administrative staff) willingly work together and practice quality as the core of all processes and operations, it will surely lead to a better organizational performance. Although HEC has made it mandatory to establish QEC in universities with the aim of developing and promoting a quality culture in Pakistani universities and bringing sustainability to quality assurance efforts at the institutional level (Batool & Qureshi, 2007). However, so far QECs established in Pakistani universities are unable to meet the challenge of creating and promoting quality culture in Pakistani universities, this is also evident in the latest

"QS World University Rankings 2022", only six universities were among the top 1000 universities, while the remaining five universities were between 1,000 and 1,200+, except that no other Pakistani university managed to secure a place in the QS ranking (QS, 2022). The most probable reasons why QECs are not performing to HEC's expectations may include: lack of qualified and competent staff; old leadership mindset that quality departments are non-value-added departments; assign the QEC leadership role to some existing staff on a temporary basis, rather than a permanent appointment; lack of resources; and passive role of QEC leadership in creating and promoting a culture of quality in all departments.

This study results are in line with the outcome of some previous studies. Hilman et al. (2017) conducted a study to investigate the effect of quality culture on university performance based on data collected during a survey of Nigerian universities. The result showed that quality culture significantly and positively influences university performance. Likewise, Ali and Musah (2012) carried out a survey-based study to examine the relation among quality culture and workforce performance in the Malaysian context. The findings revealed a significant association between quality culture and the performance of the workforce. In another study, Katwalo and Asienga (2015) investigated the influence of quality culture on performance of research institutions in Kenya. The study findings showed that there is a strong association amongst quality culture and the research institutions' performance in Kenya. Besides, the researchers also attempted to investigate the relationship between quality culture and performance of engineering organizations in Pakistan, and the results revealed a positive relationship between them (Rehmani et al., 2020).

5.3.8 Quality Culture as a Mediator

The eighth, ninth, and tenth objectives centered around investigating the mediating role of quality culture in the relationship between independent variables (leadership styles, accreditation, motivation) and the dependent variable (higher education performance). The eighth objective specifically aimed to examine the mediating effect of quality culture between leadership styles and higher education performance in Pakistani universities. The results indicated that the total effect of leadership styles on higher education performance was not statistically significant ($\beta = 0.120$, $t = 1.733$, $p > 0.05$). Similarly, even with the inclusion of the mediating variable (quality culture), the direct effect of leadership styles on higher education performance remained insignificant ($\beta = 0.033$, $t = 0.410$, $p > 0.05$). However, it is noteworthy that the indirect effect of leadership styles on higher education performance through quality culture was statistically significant ($\beta = 0.087$, $t = 2.104$, $p < 0.05$). This signifies that although the total and direct effects were not significant, leadership styles still exerted a significant indirect influence on higher education performance through the mediating role of quality culture.

The ninth objective focused on investigating the mediating role of quality culture between accreditation and higher education performance in Pakistani universities. The results demonstrated that the total effect of accreditation on higher education performance was statistically significant ($\beta = 0.401$, $t = 5.527$, $p < 0.01$). Similarly, even with the inclusion of the mediating variable (quality culture), the direct effect of accreditation on higher education performance remained significant ($\beta = 0.342$, $t = 4.769$, $p < 0.01$). Furthermore, it's important to note that the indirect effect of accreditation on higher education performance through quality culture was also

significant ($\beta = 0.058, t = 2.010, p < 0.05$). This implies that quality culture plays a mediating role in the relationship between accreditation and higher education performance, as all three effects: total, direct, and indirect were found to be statistically significant.

The tenth and final objective revolved around exploring the mediating role of quality culture between motivation and higher education performance in Pakistani universities. The findings revealed that the overall effect of motivation on higher education performance was statistically significant ($\beta = 0.401, t = 5.527, p < 0.01$). Likewise, even when accounting for the mediating variable (quality culture), the direct impact of motivation on higher education performance remained significant ($\beta = 0.342, t = 4.769, p < 0.01$). Furthermore, it's noteworthy that the indirect effect of motivation on higher education performance through quality culture was also significant ($\beta = 0.058, t = 2.010, p < 0.05$). This underscores the mediating role of quality culture in the relationship between motivation and higher education performance, as evidenced by the significance of all three effects: total, direct, and indirect.

In statistical and social science literature, mediator and moderator are two prominent but distinct concepts, that describe different types of relationships between variables. The mediator variable is the one that explains the relationship between the independent (X) and dependent (Y) variables. It represents the mechanism by which the independent variable affects the dependent variable. To put it differently, the mediator explains why or how the relationship between the variables X and Y exists. In contrast, the moderator is a variable that affects the strength or direction of the relationship between the independent (X) and dependent (Y) variables. Unlike a mediator, which explains the

relationship between X and Y, a moderator modifies that relationship. Simply put, the moderator variable affects the degree to which the independent variable affects the dependent variable.

In summary, the rationale for including quality culture as a mediator in the present study was to explain the underlying mechanism between leadership styles, accreditation, motivation, and higher education performance. For example, the current study has examined the relationship between leadership styles, accreditation, motivation, and higher education performance, and quality culture acted as a mediator to explain the relationship between leadership styles, accreditation, motivation, and higher education performance. In simple terms, quality culture as a mediator has explained how independent variables (leadership styles, accreditation, motivation) lead to higher education performance.

In the previous literature, only a few studies have investigated the mediating role of quality culture. The current study is among the first studies to investigate quality culture as a mediator, while the first to examine quality culture in relation to leadership styles, accreditation, motivation, and higher education performance. This study also provides empirical evidence that quality culture plays a mediating role in the three relationships mentioned above. This could be a substantial addition to the current body of knowledge and provides future researchers with a new direction to investigate quality culture as a mediator in relation to some new theoretical links. The few studies that have investigated quality culture as a mediator to date are presented below and their results are in line with the findings of the present study.

Abubakar and Hilman (2017) performed a study involving quality culture as a mediator in relation to dimensions of talent management and the organizational performance of universities listed in the QS ranking 2015. The results showed that the three dimensions of talent management (including talent attraction, development, and retention) and quality culture had a considerable positive effect on the performance of universities. However, quality culture was found to only mediate the relationship among talent retention, talent development, and performance. Meanwhile, no mediating effect of quality culture was found in the relationship between talent attraction and performance.

Similarly, a study was conducted to determine the relationships between TQM practices, quality culture, and contractor's competitiveness in Saudi Arabia. The survey results indicated that TQM practices made a significant contribution and were related to the competitiveness of contractors. While the mediating effect of quality culture was also found significant in the relationship between total quality management practices and contractor's competitiveness (Alotaibi et al., 2013). Meanwhile, Alotaibi et al. (2016) also conducted a study to investigate the quality culture as a mediator in relation to QMPs and innovation performance. The study revealed a partial mediation effect of quality culture in relation to QMPs and innovation performance.

5.4 Limitations

Even though this research has made several contributions to the existing body of knowledge, especially in the context of higher education, as mentioned in the previous sections. However, there is always room for improvement, so this study also has some limitations.

First, it is important to recognize that this study exclusively focused on universities located in a developing nation like Pakistan, encompassing both the public and private sectors. Moreover, the study's sample size was restricted to 105 universities due to various factors, such as the extensive geographical dispersion of universities across the country, time constraints, and financial limitations. Consequently, there may be limitations in terms of the study's findings, primarily pertaining to their applicability within a single country. Consequently, it is imperative to undertake additional research involving universities from diverse global regions to ensure the generalizability of the conclusions to the broader international higher education sector.

Second, as the unit of analysis in this study was the institution itself, a single respondent was chosen from each university, with administrative managers (comprising Vice Chancellors, Deans, Directors, and Heads of Departments) serving as the respondents. Consequently, the study's findings reflect a singular perspective, specifically that of senior leadership. Hence, it is advisable to validate the study's results by including input from additional stakeholders, including faculty members, support staff at lower levels, students, and potentially employers.

Last, it's worth noting that this study adopted a cross-sectional methodology, which means data was gathered from the population at a specific moment in time. Consequently, to enhance the credibility of the study findings, it is advisable to supplement this approach with a longitudinal one, involving the collection of data from the same sample over an extended period.

5.5 Implications of the Study

The results of this study confirmed the hypothesized relationships between accreditation and higher education performance, and motivation and higher education performance. However, the study did not provide empirical evidence of the relationship between leadership styles and higher education performance. Similarly, the study established the relationship between leadership styles and quality culture; accreditation and quality culture; motivation and quality culture; as well as relationship between the quality culture and higher education performance. Besides, the study also investigated the mediating effect of quality culture on the relationship between leadership styles, accreditation, motivation, and higher education performance in the context of higher education in Pakistan. The study results have several theoretical and practical implications for the public and private sector universities, higher education authorities (e.g., HEC, QEC staff, ORIC staff, academics etc.), and other quality practitioners, and are presented in the following sections.

5.5.1 Theoretical Implications

In higher education, RBV theory offers a valuable framework for examining the intricate interplay of leadership styles, accreditation, and motivation, and their combined influence on institutional performance. The present study delves deeper into this theoretical landscape, thoroughly investigating how these fundamental factors align with RBV principles.

Therefore, the first theoretical implication of this study is to expand current knowledge by integrating leadership styles, accreditation, motivation, quality culture, and higher education performance within a single investigation, guided by the robust RBV theory.

Its main objective is to advance scholarly comprehension of how to strategically leverage university resources such as leadership styles, accreditation, and motivation to foster a culture of quality and enhance performance. This research not only deepens our understanding of these resources individually but also emphasizes their intricate interplay, thereby extending the applicability of RBV theory in higher education.

Second, although the effect of leadership styles in relation to organizational performance has been examined in many studies, those studies examined leadership styles individually. In this study, leadership styles have been operationalized in terms of two leadership styles (transformational and transactional leadership), with the aim of examining the combined effect of both leadership styles in relation to higher education performance in the context of HEIs in Pakistan. Since previous researchers have argued that both leadership styles are equally important; and should therefore be followed to improve organizational performance (Ohemeng et al., 2018; Saleh, Nusari, Habtoor, et al., 2018). Therefore, this study is perhaps the first study to examine the direct relationship between leadership styles (both in terms of transformational and transactional leadership) and higher education performance, and indirectly through quality culture.

Third, accreditation is a relatively new but traditionally popular concept in the industrial sector. However, little consideration is shown in previous studies towards the influence of accreditation on the higher education performance in the context of HEIs in Pakistan. Though few studies have investigated accreditation in the HE context, it is not as part of the accreditation. In Pakistan, HEC has established standards for accreditation at the institutional level, similarly there are fourteen accreditation councils in Pakistan to

accredit university undergraduate programs against relevant accreditation standards. However, there is a lack of evidence in previous literature to investigate the effect of accreditation on HE performance. This study provides an opportunity to examine the effect of accreditation on the performance of HEIs, which is the starting point for future researchers around the world.

Fourth, there is little or no evidence that previous studies have examined the effect of motivation (of faculty members) on higher education performance in the context of HEIs in Pakistan. Instead, much of the previous work has focused on employee motivation in qualitative studies or in relation to employee performance. Despite this, the role of faculty members is widely accepted around the world, due to their involvement in providing a wide range of educational services, including teaching, learning; assessment; and research. In addition to these traditional responsibilities, faculty members in the Pakistani higher education system have been assigned some additional roles such as serving on various committees, administrative responsibilities, and conducting SA of academic programs as part of PTs and ATs. Besides, faculty members are also subjected to several other challenges, such as improving student satisfaction and increasing research productivity at both the individual and departmental levels. To cope with these challenges the motivation of faculty members matters a lot. Consequently, the present study has identified and bridged the gap in the existing literature by examining the relationship between motivation and higher education performance directly and indirectly through quality culture in the context of Pakistani higher education.

Fifth, although many studies have shown that quality culture plays an important role in influencing and improving organizational performance (Hilman et al., 2017; Katwalo & Asienga, 2015; Yusof & Ali, 2000), however, only a handful studies investigated quality culture as a mediator (Abubakar & Hilman, 2017b; Alotaibi & Islam, 2013; Alotaibi et al., 2016). But there is no evidence from previous literature that researchers have examined quality culture as a mediator in the relationship between leadership styles, accreditation, motivation, and higher education performance. Thus, the present study filled this theoretical gap by investigating the mediating effect of quality culture in relation to leadership styles, accreditation, motivation, and higher education performance in the context of HEIs in Pakistan.

Last, this study also adds value to the existing body of knowledge by operationalizing organizational performance in terms of three core areas of performance in the context of higher education. The current researcher has identified the three areas of performance, including: teaching performance, research performance, and service performance through a theoretical lens and by conducting an extensive review of the literature. To date, there is no evidence in the previous literature that researchers have operationalized higher education performance in terms of these three areas. As a result, this study has closed this gap by operationalizing higher education performance in terms of teaching performance, research performance, and service performance in the context of HEIs in Pakistan.

5.5.2 Practical Implications

In practical terms, this study offers valuable insights to bridge theory and real-world application. It equips educational leaders and decision-makers with actionable

knowledge rooted in the RBV perspective. Specifically, it provides practical guidance on strategically utilizing resources such as leadership styles, accreditation strategies, and motivation to foster a culture of quality and boost institutional performance. It identifies specific resources to leverage, offers resource allocation recommendations, and suggests methods to cultivate a culture that maximizes these resources, ultimately optimizing institutional performance in a dynamic educational context.

First, the study provides empirical evidence for the validity of the research framework being tested based on primary data collected from universities in Pakistan. Given the establishment of new public and private universities in Pakistan over the last two decades, and the lack of funding from government agencies like HEC, fierce competition in terms of attracting new students and retaining current students has developed between universities. Thus, there is a fear among various segments of society that this will jeopardize the quality of higher education in Pakistan; thus, it will further worsen the already poor performance of Pakistani universities. In such a competitive environment, all stakeholders, especially university leadership, should focus on effective implementation of accreditation standards; improving the motivation of faculty members; and developing a quality culture in their respective universities to improve the performance of Pakistani universities. This study will make a significant contribution in terms of practical implications for the application of these predictors in the context of higher education to improve university performance.

Second, the study provides empirical evidence that accreditation plays a significant role in building quality culture and improving higher education performance in the context of Pakistani universities. However, the effective implementation of accreditation

standards in many universities is a major concern for higher education authorities in Pakistan. Therefore, HEC and university leaders should ensure the allocation of the necessary resources for the establishment of QECs; the appointment of qualified and competent QA personnel; and the effective implementation of the quality standards as proposed by HEC and other relevant accreditation bodies/councils.

Third, the study provides empirical evidence underscoring the profound impact of motivation, both directly and indirectly through the cultivation of a quality culture, on higher education performance in Pakistani universities. Faculty motivation carries significant implications for university leadership, the faculty itself, and students due to their integral roles in delivering quality education. This motivation affects key areas such as teaching, research, and service, and a lack thereof can lead to reduced academic quality and overall university effectiveness. Notably, the financial constraints facing Pakistani universities are exacerbating this decline in staff motivation, particularly among faculty. Therefore, it is crucial for university leadership to implement intrinsic and extrinsic motivational strategies to engage faculty in fostering a culture of excellence, ultimately enhancing higher education performance in Pakistani universities.

Last, this study also makes an important contribution in terms of practical implications for university leadership to promote quality culture in their respective universities. Almost all the universities in Pakistan claim to provide world-class education to their students, but only a few register their place among the best universities in the world. This is certainly due to a lack of quality aptitude (quality culture) that resulted in weak or ineffective implementation of quality standards. The role of quality culture has

already been established in previous studies, while the present study also provides empirical evidence that quality culture is an important predictor and mediator in relation to leadership styles, accreditation, motivation, and higher education performance in context of Pakistani universities.

5.6 Recommendations and Future Research

Given the findings and limitations of this study, there are few recommendations that could guide future researchers to go beyond what has been done so far. These recommendations are given in the following sections.

First, since this study was conducted in public and private sector universities in a Pakistan. Therefore, future researchers could carry out a comparative study between universities in Pakistan and other countries such as Malaysia or China. This will allow future researchers to compare the performance of Pakistani universities in all aspects with universities in other countries that have better reputation, performance and ranking in world university rankings. This will also provide an opportunity to validate the results of this study at a broader spectrum.

Second, since the sampling unit in this study was administrative managers (including VCs, Deans, Directors, and HODs), there is a possibility that administrative managers may have overrated their responses. Therefore, future researchers could include other stakeholders such as faculty members, lower-level support staff, students, and/or employers in their studies to gain a more realistic view of the performance of Pakistani universities.

Third, since the population in this study was dispersed throughout the country, the sample size was limited to 105 universities. It was not possible for the current researcher to access all universities to collect data due to financial constraints and limited time. Therefore, future researchers may have the opportunity to broaden the scope of their studies by seeking financial assistance or by taking advantage of research grants from government agencies or NGOs to conduct an in-depth study. Future researchers can also hire research assistants or research associates to collect data in person from different regions of Pakistan, this will increase the sample size of their studies, resulting in more generalizability of their study results.

Finally, this study used a cross-sectional research approach to data collection that only provides a preview of the results and there might be a possibility of diverse nature of the results if carried out in some other time-period. Therefore, future researchers may have the opportunity to collect data by adopting a longitudinal approach, which will give them a deeper insight, a profound knowledge of the subject and a clear understanding of each variable in the study.

5.7 Conclusion

This study aimed to examine the effects of leadership styles, accreditation, and motivation on higher education performance in Pakistan. This study also investigated the role of quality culture as a mediating variable in the relationship between leadership styles, accreditation, motivation, and higher education performance in Pakistani universities. The research framework in this study was based on the RBV theory. The study population comprised of 226 public and private sector universities across Pakistan. Data were collected through stratified random sampling techniques from

administrative managers (including VCs, Deans, Directors, and HODs) at randomly selected universities. The collected data were then analyzed using SPSS and PLS-SEM.

Overall, out of ten hypotheses, nine hypotheses were found to be significant, while one hypothesis was found to be insignificant in this study. The results revealed that accreditation (H₂), motivation (H₃), and quality culture (H₇) were positively and significantly related to higher education performance. Similarly, the relationship between leadership styles (H₄), accreditation (H₅), motivation (H₆) and quality culture were also found to be positive and significant. However, the relationship between leadership styles and higher education performance (H₁) was found to be insignificant in the context of Pakistani universities.

Regarding the mediating effect of quality culture, in the first mediation hypothesis (H₈), the indirect effect of leadership styles on the higher education performance through quality culture was found to be significant. Similarly, in the second mediation hypothesis (H₉), the results revealed that quality culture mediates the relationship between accreditation and higher education performance, as the total effect, direct effect, and indirect effect were all significant. Also, in the third mediation hypothesis (H₁₀), the results indicated that quality culture mediates the relationship between motivation and higher education performance, since the total effect, the direct effect and the indirect effect were all significant.

This study introduced some new theoretical relationships between variables that are novel and rarely discussed in the previous literature, such as accreditation and motivation as independent variables; the quality culture as mediating variable; and

higher education performance (operationalized in terms of teaching, research, and service performance) as a dependent variable in the context of Pakistani universities. The results of this study suggest that university leaders should adapt their leadership styles (in terms of transformational and transactional leadership) to develop and nurture quality culture in universities, which in turn will lead to superior performance of Pakistani universities. At the same time, the study results also indicate that accreditation (in terms of external evaluations), and motivation (of faculty members) not only directly influence higher education performance, but also indirectly through the creation and promotion of a quality culture in Pakistani universities.

This study concludes that the role of leadership is more critical in creating and promoting a culture of quality than in predicting higher education performance directly in the context of Pakistani universities. On the other hand, accreditation and motivation play a vital role in improving the higher education performance in public and private sector universities across Pakistan. Equally, leadership styles, accreditation, and motivation are crucial predictors of quality culture in Pakistani universities. Lastly, this study also establishes the indispensable role of quality culture as a mediator in relation to leadership styles, accreditation, motivation, and higher education performance by providing empirical evidence in the context of Pakistani universities.

References

- Abadama, D. S. S. (2020). A comparative study of perceived transformational, transactional and passive avoidant leadership styles effectiveness within the Ethiopian Public Universities. *International Journal of Higher Education Management*, 07(01), 29–46. <https://doi.org/10.24052/ijhem/v07n01/art-3>
- Abbas, J. (2020). Service quality in higher education institutions: qualitative evidence from the students' perspectives using Maslow hierarchy of needs. *International Journal of Quality and Service Sciences*, 12(3), 371–384. <https://doi.org/10.1108/IJQSS-02-2020-0016>
- Abdullah, F. (2005). HEdPERF versus SERVPERF: The quest for ideal measuring instrument of service quality in higher education sector. *Quality Assurance in Education*, 13(4), 305–328. <https://doi.org/10.1108/09684880510626584>
- Abdullah, F. (2006a). Measuring service quality in higher education: HEdPERF versus SERVPERF. *Marketing Intelligence and Planning*, 24(1), 31–47. <https://doi.org/10.1108/02634500610641543>
- Abdullah, F. (2006b). Measuring service quality in higher education: Three instruments compared. *International Journal of Research and Method in Education*, 29(1), 71–89. <https://doi.org/10.1080/01406720500537445>
- Abdullah, F. (2006c). The development of HEdPERF: A new measuring instrument of service quality for the higher education sector. *International Journal of Consumer Studies*, 30(6), 569–581. <https://doi.org/10.1111/j.1470-6431.2005.00480.x>
- Aboagye, E., Jensen, I., Bergström, G., Brämberg, E. B., Pico-Espinosa, O. J., & Björklund, C. (2021). Investigating the association between publication performance and the work environment of university research academics: a systematic review. *Scientometrics*, 126, 3283–3301.

<https://doi.org/10.1007/s11192-020-03820-y>

- Abramo, G., Cicero, T., & Angelo, C. A. D. (2013). The impact of unproductive and top researchers on overall university research performance. *Journal of Informetrics*, 7(1), 166–175. <https://doi.org/10.1016/j.joi.2012.10.006>
- Abubakar, A., & Ahmed, S. (2017). The Effect of a Transformational Leadership Style on the Performance of Universities in Nigeria. *Pakistan Journal of Educational Research and Evaluation*, 2(1), 59–76.
- Abubakar, A., & Hilman, H. (2017). The Mediating Role of Quality Culture on the Relationship between Talent Management and Organizational Performance. *4th Conference on Business Management*, 29 - 30 October 2017, 887–901. <https://repo.uum.edu.my/id/eprint/23824/>
- Acevedo-De-los-Ríos, A., & Rondinel-Oviedo, D. R. (2022). Impact, added value and relevance of an accreditation process on quality assurance in architectural higher education. *Quality in Higher Education*, 28(2), 186–204. <https://doi.org/10.1080/13538322.2021.1977482>
- Adina-Petruța, P. (2014). Quality Culture - A Key Issue for Romanian Higher Education. *Procedia - Social and Behavioral Sciences*, 116, 3805–3810. <https://doi.org/10.1016/j.sbspro.2014.01.845>
- Agah, N. N., Kaniuka, T., & Chitiga, M. (2020). Examining motivation theory in higher education among tenured and non-tenured faculty: Scholarly activity and academic rank. *International Journal of Educational Administration and Policy Studies*, 12(2), 77–100. <https://doi.org/10.5897/ijeaps2020.0644>
- Agasisti, T., & Bertolotti, A. (2019). Analysing the determinants of higher education systems' performance-a structural equation modelling approach. *Science and Public Policy*, 46(6), 834–852. <https://doi.org/10.1093/scipol/scz033>

- Agesa, J., Granger, M., & Price, G. N. (2002). The Research Productivity of Black Economists: Ranking by Individuals and Doctoral Alma Mater. *The Review of Black Political Economy*, 30(2), 7–24. <https://doi.org/10.1007/BF02717310>
- Aguinis, H., Edwards, J. R., & Bradley, K. J. (2016). Improving Our Understanding of Moderation and Mediation in Strategic Management Research. *Organizational Research Methods*, 20(4), 1–21. <https://doi.org/10.1177/1094428115627498>
- Ahmad, I., Rehman, K., Ali, A., Khan, I., & Khan, F. A. (2014). Critical Analysis of the Problems of Education in Pakistan: Possible Solutions. *International Journal of Evaluation and Research in Education*, 3(2), 79–84. <https://doi.org/10.11591/ijere.v3i2.1805>
- Ahmad, M., & Ejaz, T. (2019). Transactional and Transformational leadership impact on Organizational Performance: Evidence from Textile sector of Pakistan. *European Online Journal of Natural and Social Sciences* 2019;, 8(2), 97–103. <https://doi.org/10.2139/ssrn.3384213>
- Ahmed, A., & Nuland, Y. V. (2016). How to Assess Your Organization's Quality Culture: Critical success factors for leaders and employees. *Quality Digest*, 1–7. <https://www.qualitydigest.com/inside/lean-article/how-assess-your-organization-s-quality-culture-081616.html>
- Akparep, J. Y., Jengre, E., & Mogre, A. A. (2019). The Influence of Leadership Style on Organizational Performance at TumaKavi Development Association, Tamale, Northern Region of Ghana. *Open Journal of Leadership*, 08, 1–22. <https://doi.org/10.4236/ojl.2019.81001>
- Al-Dulaimi, Z. Y. S. (2016). Education, Educational Services and their Quality. *Journal of Marketing Management*, 4(1), 58–66.

<https://doi.org/10.15640/jmm.v4n1a6>

Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The Impact of Customer Relationship Management Dimensions on Service Quality. *Polish Journal of Management Studies*, 23(2), 24–41.

<https://doi.org/10.17512/pjms.2021.23.2.02>

Al-Khaled, A. A. S., & Fenn, C. J. (2020). The Impact of Leadership Styles on Organizational Performance. *BERJAYA Journal of Services & Management*, 13(January), 55–62. <https://doi.org/10.5281/zenodo.3766106>

Al-Otaibi, F. M. S. (2015). Role of Exploratory Factor Analysis Applicability of TQM Practices on the Items of Quality Culture in the Kingdom of Saudi Arabia. *International Journal of Business and Management*, 10(1), 136–143.

<https://doi.org/10.5539/ijbm.v10n1p136>

Al Khajeh, E. H. (2018). Impact of leadership styles on organizational performance. *Journal of Human Resources Management Research*, 2018, 1–10.

<https://doi.org/10.5171/2018.687849>

Alaarj, S., Abidin-Mohamed, Z., & Bustamam, U. S. B. A. (2016). Mediating Role of Trust on the Effects of Knowledge Management Capabilities on Organizational Performance. *Procedia - Social and Behavioral Sciences*, 235(October), 729–738. <https://doi.org/10.1016/j.sbspro.2016.11.074>

Albaqami, S. (2015). Factors Influencing Quality Assurance Implementation in Saudi Universities. *International Journal of Management and Applied Science*, 1(5), 60–64.

Aldieri, L., Kotsemir, M. N., & Vinci, C. P. (2020). The Effects of Collaboration on Research Performance of Universities: An Analysis by Federal District and Scientific Fields in Russia. *Journal of the Knowledge Economy*, 11(2), 766–787.

<https://doi.org/10.1007/s13132-018-0570-9>

- Ali, H. M., & Musah, M. B. (2012). Investigation of Malaysian higher education quality culture and workforce performance. *Quality Assurance in Education*, 20(3), 289–309. <https://doi.org/10.1108/09684881211240330>
- Ali, L. (2019). Impact of Leadership Styles on Organizational Performance - A Case Study of Public Sector University , Bacha Khan University Charsadda. *Journal of Multidisciplinary Approaches in Science*, 4(1), 26–40.
- Ali, M. (2020). *Why You Need A World-Class Quality Culture - And How To Build One*. BIOPROCESS ONLINE. <https://www.bioprocessonline.com/doc/why-you-need-a-world-class-quality-culture-and-how-to-build-one-0001>
- Ali, N. M., Jangga, R., Ismail, M., Kamal, S. N. M., & Ali, M. N. (2015). Influence of Leadership Styles in Creating Quality Work Culture. *Procedia Economics and Finance*, 31(15), 161–169. [https://doi.org/10.1016/s2212-5671\(15\)01143-0](https://doi.org/10.1016/s2212-5671(15)01143-0)
- Almohaimmeed, B. M. (2019). Internal Service Quality and External Service Quality using two versions of SERVQUAL Scale: An empirical evidence from five malls in the capital city of Saudi Arabia. *Business: Theory and Practice*, 20, 158–169. <https://doi.org/10.3846/BTP.2019.15>
- Alomary, F. O. (2020). Evaluation of Scientific Research Based on Key Performance Indicators (KPIs): A Case Study in Al-Imam Mohammad Ibn Saud Islamic University. *Computer and Information Science*, 13(1), 34–40. <https://doi.org/10.5539/cis.v13n1p34>
- Alotaibi, F., & Islam, R. (2013). Total Quality Management Practices, Quality Culture and Contractors' Competitiveness. *Advances in Environmental Biology*, 7(9), 2642–2649.
- Alotaibi, F., Yusoff, R. Z., & Islam, R. (2013). Assessing the impact of total quality

- management practices and quality culture with competitiveness of Saudi contractors. *American Journal of Applied Sciences*, 10(6), 638–645.
<https://doi.org/10.3844/ajassp.2013.638.645>
- Alotaibi, G. B. G., Yusoff, R. Z., Mokhtar, S. S., & Taib, C. A. B. (2016). Testing the Mediation Role of Quality Culture in the Relationship of Quality Management Practice and Innovation Performance. *International Journal of Economics, Commerce and Management*, IV(11), 67–76.
- Alqatawenh, A. S. (2018). Transformational leadership style and its relationship with change management. *Business: Theory and Practice*, 19, 17–24.
<https://doi.org/10.3846/btp.2018.03>
- Alstete, J. W. (2007). *College Accreditation: Managing Internal Revitalization and Public Respect* (First, Issue First). Palgrave Macmillan.
<https://doi.org/10.1057/9780230601932>
- Alvi, G. F., Bibi, N., & Safder, M. (2021). The Development of a Questionnaire to Measure the Institutional Performance in Higher Education Institutions. *Journal of Business and Social Review in Emerging Economies*, 6(4), 1653–1663.
<https://doi.org/10.26710/jbsee.v6i4.1534>
- Alvi, G. F., & Rana, R. A. (2019). Relationship between Task-Oriented Leaders' Behavior and Organizational Performance in Higher Education Institutions. *Bulletin of Education and Research*, 41(3), 153–166.
- Ambrose, M. L., & Kulik, C. T. (1999). Old friends, new faces: Motivation research in the 1990s. *Journal of Management*, 25(3), 231–292.
<https://doi.org/10.1177/014920639902500302>
- Amir, S., Sharf, N., & Khan, R. A. (2020). Pakistan's Education System: An Analysis of Education Policies and Drawbacks. *Electronic Research Journal of Social*

- Sciences and Humanities*, 2(1), 2–11. <http://www.eresearchjournal.com/wp-content/uploads/2020/07/2.-Pakistans-Education-System.pdf>
- Anderson, E. (1995). High tech v. high touch: A case study of TQM implementation in higher education. *Managing Service Quality*, 5(2), 48–56.
<https://doi.org/10.1108/09604529510083576>
- Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411–423.
- Andrews, K. R. (1987). *The Concept of Corporate Strategy* (Third). IRWIN, INC.
- Andrews, R. (2003). Research Questions. In *Continuum Research Methods*. Continuum. <https://doi.org/10.4324/9781351010979-3>
- Anwar, S. (2020). To Investigate the Impact of Leadership Styles on Quality Work Culture in NGOs' of Pakistan. *International Journal of Empirical Finance and Management Sciences*, 02(02), 1–10.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3951662
- Armstrong, C. E., & Shimizu, K. (2007). A review of approaches to empirical research on the resource-based view of the firm. *Journal of Management*, 33(6), 959–986. <https://doi.org/10.1177/0149206307307645>
- Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, 14(3), 396–402.
<https://doi.org/10.2307/3150783>
- Armstrong, M. (2006). *A Handbook of Human Resource Management Practice* (10th ed.). Kogan Page Ltd.
- Arnab, R. (2017). *Survey Sampling: Theory and Applications*. Academic Press.
- Arooj, T. (2018). Leadership as Distinguish Operative Total Quality Management

- Factor in the Public-Sector Universities of Pakistan. *Journal of Educational Research*, 21(1), 56–72.
- Arrieta, M. C., & Avolio, B. (2020). Factors of higher education quality service: the case of a Peruvian university. *Quality Assurance in Education*, 28(4), 219–238. <https://doi.org/10.1108/QAE-03-2020-0037>
- Asif, M., Awan, M. U., Khan, M. K., & Ahmad, N. (2013). A model for total quality management in higher education. *Quality and Quantity*, 47(4), 1883–1904. <https://doi.org/10.1007/s11135-011-9632-9>
- Asif, M., & Searcy, C. (2014). A composite index for measuring performance in higher education institutions. *International Journal of Quality and Reliability Management*, 31(9), 983–1001. <https://doi.org/10.1108/IJQRM-02-2013-0023>
- Asiimwe, J. B., Kavoo-Linge, T., & Sikalieh, D. (2016). The Relationship between Transactional Leadership Style and SMEs Growth in the Top 100 SMEs in Kenya. *International Journal of Business and Social Science*, 7(7), 74–81. www.ijbssnet.com
- Atasoy, R. (2020). The Relationship Between School Principals' Leadership Styles, School Culture and Organizational Change. *International Journal of Progressive Education*, 16(5), 256–274. <https://doi.org/10.29329/ijpe.2020.277.16>
- Athanassopoulos, A. D. (2000). Customer satisfaction cues to support market segmentation and explain switching behavior. *Journal of Business Research*, 47(3), 191–207. [https://doi.org/10.1016/S0148-2963\(98\)00060-5](https://doi.org/10.1016/S0148-2963(98)00060-5)
- Azizah, Y. N., Rijal, M. K., Romainur, Rohmah, U. N., Pranajaya, S. A., Ngiu, Z., Mufid, A., Purwanto, A., & Mâu, D. H. (2020). Transformational or Transactional Leadership Style: Which Affects Work Satisfaction and Performance of Islamic University Lecturers During COVID-19 Pandemic?

Systematic Reviews in Pharmacy, 11(7), 577–588.

<https://www.sysrevpharm.org/articles/transformational-or-transactional-leadership-style-which-affects-work-satisfaction-and-performance-of-islamic-university.pdf>

Babakus, E., & Boller, G. W. (1992). An Empirical Assessment of the SERVQUAL Scale. *Journal of Business Research*, 24, 253–268. [https://doi.org/10.1016/0148-2963\(92\)90022-4](https://doi.org/10.1016/0148-2963(92)90022-4)

Badri, M. A., & Abdulla, M. H. (2004). Awards of excellence in institutions of higher education: An AHP approach. *International Journal of Educational Management*, 18(4), 224–242. <https://doi.org/10.1108/09513540410538813>

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing Construct Validity in Organizational Research. *Administrative Science Quarterly*, 36(3), 421–458. <http://www.jstor.org/stable/2393203>

Baker, D. F., Neely, W. P., Prenshaw, P. J., & Taylor, P. A. (2015). Developing a multi-dimensional evaluation framework for faculty teaching and service performance. *Journal of Academic Administration in Higher Education*, 11(2), 29–41.

Baker, R. L. (2002). Evaluating quality and effectiveness: Regional accreditation principles and practices. *Journal of Academic Librarianship*, 28(1–2), 3–7. [https://doi.org/10.1016/S0099-1333\(01\)00279-8](https://doi.org/10.1016/S0099-1333(01)00279-8)

Bakrie, M., Sujanto, B., & Rugaiyah, R. (2019). The Influence of Service Quality, Institutional Reputation, Students' Satisfaction on Students' Loyalty in Higher Education Institution. *International Journal for Educational and Vocational Studies*, 1(5), 379–391. <https://doi.org/10.29103/ijevs.v1i5.1615>

Banahene, S., Kraa, J. J., & Kasu, P. A. (2018). Impact of HEDPERF on Students'

- Satisfaction and Academic Performance in Ghanaian Universities; Mediating Role of Attitude towards Learning. *Open Journal of Social Sciences*, 06, 96–119. <https://doi.org/10.4236/jss.2018.65009>
- Banuri, T. (2021). *Does Pakistan's Higher Education System Need Reform?* *Educationist Tariq Banuri*. TCM Originals. <https://www.youtube.com/watch?v=lpkv9hEIUJw>
- Barbuto, J. E., & Burbach, M. E. (2006). The Emotional Intelligence of Transformational Leaders: A Field Study of Elected Officials. *Journal of Social Psychology*, 146(1), 51–64. <https://doi.org/10.3200/SOCP.146.1.51-64>
- Barclay, D., Thompson, R., & Higgins, C. (1995). The Partial Least Squares (PLS) Approach to Causal Modeling: Personal Computer Adoption and Use an Illustration. *Technology Studies*, 2(2), 285–309.
- Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Barney, J. B., & Arian, A. M. (2006). The Resource-based View: Origins and Implications. In M. A. Hitt, R. E. Freeman, & J. S. Harrison (Eds.), *The Blackwell Handbook of Strategic Management* (pp. 124–188). Blackwell Publishing. <https://doi.org/10.1111/b.9780631218616.2006.00006.x>
- Barney, J. B., & Clark, D. N. (2007). *Resourced-Based Theory: Creating and Sustaining Competitive Advantage* (First, Vol. 148). Oxford University Press.
- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1007/BF02512353>
- Baškarada, S., Watson, J., & Cromarty, J. (2017). Balancing transactional and

- transformational leadership. *International Journal of Organizational Analysis*, 25(3), 506–515. <https://doi.org/10.1108/IJOA-02-2016-0978>
- Bass, B. M. (1985). *Leadership and Performance beyond Expectations*. Free Press.
- Bass, B. M. (1990a). *Bass & Stogdill's Handbook of Leadership: Theory, Research, and Managerial Applications* (Third). The Free Press.
- <https://doi.org/10.2307/257231>
- Bass, B. M. (1990b). From Transactional to Transformational Leadership: Learning to Share the Vision. *Organizational Dynamics*, 18(3), 19–31.
- [https://doi.org/10.1016/0090-2616\(90\)90061-S](https://doi.org/10.1016/0090-2616(90)90061-S)
- Bass, B. M., & Riggio, R. E. (2006). *Transformational Leadership* (Second, Vol. 62, Issue 4). Lawrence Erlbaum Associates, Inc.
- <https://doi.org/10.1093/itnow/bwaa120>
- Batool, Z., & Qureshi, R. H. (2007). Quality Assurance Manual for Higher Education in Pakistan. In *Higher Education Commission, Pakistan*.
- Baumgartner, H., & Weijters, B. (2012). Commentary on “Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies.” *Journal of Retailing*, 88(4), 563–566. <https://doi.org/10.1016/j.jretai.2012.10.003>
- Bazeley, P. (2010). Conceptualising research performance. *Studies in Higher Education*, 35(8), 889–903. <https://doi.org/10.1080/03075070903348404>
- Behery, M. H., & Paton, R. A. (2008). Performance appraisal-cultural fit: organizational outcomes within the UAE. *Education, Business and Society: Contemporary Middle Eastern Issues*, 1(1), 34–49.
- <https://doi.org/10.1108/17537980810861501>
- Bendermacher, G. W. G., oude Egbrink, M. G. A., Wolfhagen, I. H. A. P., & Dolmans, D. H. J. M. (2017). Unravelling quality culture in higher education: a

- realist review. *Higher Education*, 73(1), 39–60. <https://doi.org/10.1007/s10734-015-9979-2>
- Bennett, J. A. (2000). Mediator and Moderator Variables in Nursing Research: Conceptual and Statistical Differences. *Research in Nursing & Health*, 23, 415–420. [https://doi.org/10.1002/1098-240x\(200010\)23:5<415::aid-nur8>3.0.co;2-h](https://doi.org/10.1002/1098-240x(200010)23:5<415::aid-nur8>3.0.co;2-h)
- Berings, D., Beerten, Z., Hulpiau, V., & Verhesschen, P. (2010). Quality culture in higher education: from theory to practice. *European Association of Institutions in Higher Education*, 13. https://www.eurashe.eu/library/wgsiii-8_papers_beringsbeertenhulpiauverhesschen-pdf/
- Bhattacharjee. (2021). *Social Science Research - Principles, Methods, and Practices*. LibreTexts.
- Bi, H. H. (2018). A robust interpretation of teaching evaluation ratings. *Assessment and Evaluation in Higher Education*, 43(1), 79–93. <https://doi.org/10.1080/02602938.2017.1295301>
- Bianchini, S. (2013). Feedback effects of teaching quality assessment: macro and micro evidence. *Assessment and Evaluation in Higher Education*, 39(3), 15. <https://doi.org/10.1080/02602938.2013.842957>
- Bilal, M., & Khan, I. (2012). Issues and Prospects Behind the Depressed Higher Education in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 4(7), 157–172.
- Bird, B., Welsch, H., Astrachan, J. H., & Pistrui, D. (2002). Family Business Research: The Evolution of an Academic Field. *Family Business Review*, 15(4), 337–350. <https://doi.org/10.1111/j.1741-6248.2002.00337.x>
- Boote, D. N., & Beile, P. (2005). Scholars Before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation. *Educational*

- Researcher*, 34(6), 3–15. <https://doi.org/10.3102/0013189X034006003>
- Brady, M. K., Cronin, J. J., & Brand, R. R. (2002). Performance-only measurement of service quality: A replication and extension. *Journal of Business Research*, 55(1), 17–31. [https://doi.org/10.1016/S0148-2963\(00\)00171-5](https://doi.org/10.1016/S0148-2963(00)00171-5)
- Breevaart, K., Bakker, A., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology*, 87(1), 138–157. <https://doi.org/10.1111/joop.12041>
- Broussard, S. C., & Garrison, M. E. B. (2004). The relationship between classroom motivation and academic achievement in elementary-school-aged children. *Family and Consumer Sciences Research Journal*, 33(2), 106–120. <https://doi.org/10.1177/1077727X04269573>
- Brown, T. J., Churchill, G. A., & Peter, J. P. (1993). Improving the Measurement of Service Quality. *Journal of Retailing*, 69(1), 127–139.
- Bryman, A. (2012). Social Research Methods. In *Oxford University Press* (Fourth, Vol. 148). Oxford University Press Inc.
- Burns, J. M. (1978). *Leadership: Transformational leadership, transactional leadership* (1st ed.). Harper & Row.
- Busaidi, H. A. (2020). Examining the relationship between the accreditation of engineering programmes and institutional performance. *Quality Assurance in Education*, 28(3), 179–192. <https://doi.org/10.1108/QAE-10-2019-0098>
- Bushra, F., Usman, A., & Naveed, A. (2011). Effect of Transformational Leadership on Employees ' Job Satisfaction and Organizational Commitment in Banking Sector of Lahore (Pakistan). *International Journal of Business and Social Science*, 2(18), 261–267.

- Buttle, F. (1996). SERVQUAL: review, critique, research agenda. *European Journal of Marketing*, 30(1), 8–32. <https://doi.org/10.1108/03090569610105762>
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81–105. <https://doi.org/10.1037/h0046016>
- Campos, D. F., Santos, G. S. d., & Castro, F. N. (2018). Measuring students' expectations of service quality of a higher education institution in a longitudinal design. *International Journal of Services and Operations Management*, 31(3), 303–324. <https://doi.org/10.1504/IJSOM.2018.095559>
- Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology*, 14(3), 389–405. <https://doi.org/10.1023/A:1022991115523>
- Carlucci, D., Renna, P., Izzo, C., & Schiuma, G. (2018). Assessing teaching performance in higher education: a framework for continuous improvement. *Management Decision*, 19. <https://doi.org/10.1108/MD-04-2018-0488>
- Carrillat, F. A., Jaramillo, F., & Mulki, J. P. (2007). The validity of the SERVQUAL and SERVPERF scales. *International Journal of Service Industry Management*, 18(5), 472–490. <https://doi.org/10.1108/09564230710826250>
- Caruana, A., Ewing, M. T., & Ramaseshan, B. (2000). Assessment of the three-column format SERVQUAL: An experimental approach. *Journal of Business Research*, 49(1), 57–65. [https://doi.org/10.1016/S0148-2963\(98\)00119-2](https://doi.org/10.1016/S0148-2963(98)00119-2)
- Carvalho, A., Leitão, J., & Alves, H. (2022). Leadership styles and HEI performance: relationship and moderating factors. *International Journal of Leadership in Education*, 00(00), 1–37. <https://doi.org/10.1080/13603124.2022.2068188>
- Cascio, W. F. (2010). *Managing Human Resources: Productivity, Quality of Work*

- Life, Profits* (Eighth). McGraw-Hill/Irwin.
- Cassel, C., Hackl, P., & Westlund, A. H. (1999). Robustness of partial least-squares method for estimating latent variable quality structures. *Journal of Applied Statistics*, 26(4), 435–446. <https://doi.org/10.1080/02664769922322>
- Certo, S. (2019). *Supervision: Concepts and Skill-Building* (Tenth). McGraw-Hill Education. http://www.amazon.com/Supervision-Concepts-Skill-Building-Samuel-Certo/dp/007802918X/ref=sr_1_fkmr0_1?ie=UTF8&qid=1399438839&sr=8-1-fkmr0&keywords=Supervision%3A+Concepts+and+Skid+Building
- Chakraborty, D., & Biswas, W. (2019). Motivating factors in a teacher's research and developmental activities and their impact on effective quality teaching in higher education institutions. *Journal of Applied Research in Higher Education*, 12(4), 609–632. <https://doi.org/10.1108/JARHE-07-2018-0161>
- Chandra, T., Ng, M., Chandra, S., & Priyono. (2018). The effect of service quality on student satisfaction and student loyalty: An empirical study. *Journal of Social Studies Education Research*, 9(3), 109–131. <https://doi.org/10.17499/jsr.12590>
- Chang, H.-T., Chou, Y.-J., Miao, M.-C., & Liou, J.-W. (2019). The effects of leadership style on service quality: enrichment or depletion of innovation behaviour and job standardisation. *Total Quality Management and Business Excellence*, 1–17. <https://doi.org/10.1080/14783363.2019.1626708>
- Chang, S. J., Witteloostuijn, A. V., & Eden, L. (2010). From the Editors: Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178–184. <https://doi.org/10.1057/jibs.2009.88>
- Chebat, J. C., Filiatrault, P., G  linas-Chebat, C., & Vaninsky, A. (1995). Impact of Waiting Attribution and Consumer's Mood on Perceived Quality. *Journal of*

- Business Research*, 34(3), 191–196. [https://doi.org/10.1016/0148-2963\(95\)98346-4](https://doi.org/10.1016/0148-2963(95)98346-4)
- Chen, C.-F., & Kao, Y.-L. (2012). Investigating the antecedents and consequences of burnout and isolation among flight attendants. *Tourism Management*, 33(4), 868–874. <https://doi.org/10.1016/j.tourman.2011.09.008>
- Cheruiyot, T. K., & Maru, L. C. (2013). Service quality and relative performance of public universities in East Africa. *TQM Journal*, 25(5), 533–546. <https://doi.org/10.1108/TQM-11-2012-0103>
- Chi, T. (1994). Trading in Strategic Resources: Necessary Conditions, Transaction Cost Problems, and Choice of Exchange Structure. *Strategic Management Journal*, 15, 271–290. <https://doi.org/10.1002/smj.4250150403>
- Chiang, C. F., & Wu, K. P. (2014). The influences of internal service quality and job standardization on job satisfaction with supports as mediators: flight attendants at branch workplace. *International Journal of Human Resource Management*, 25(19), 2644–2666. <https://doi.org/10.1080/09585192.2014.884616>
- Chin, W. W. (1998). The Partial Least Squares Approach for Structural Equation Modeling. In *Modern Methods for Business Research* (pp. 295–336). Lawrence Erlbaum Associates, Inc.
- Chow-Chua, C., & Komaran, R. (2002). Managing service quality by combining voice of the service provider and voice of their customers. *Managing Service Quality: An International Journal*, 12(2), 77–86. <https://doi.org/10.1108/09604520210421383>
- Clewes, D. (2003). A Student-Centred Conceptual Model of Service Quality in Higher Education. *Quality in Higher Education*, 9(1), 69–85. <https://doi.org/10.1080/1353832032000085467>

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Second). Lawrence Erlbaum Associates, Inc.
[https://doi.org/https://doi.org/10.4324/9780203771587](https://doi.org/10.4324/9780203771587)
- Coltman, T., Devinney, T. M., Midgley, D. F., & Venaik, S. (2008). Formative versus reflective measurement models: Two applications of formative measurement. *Journal of Business Research*, 61(12), 1250–1262.
<https://doi.org/10.1016/j.jbusres.2008.01.013>
- Compagnucci, L., & Spigarelli, F. (2020). The Third Mission of the university: A systematic literature review on potentials and constraints. *Technological Forecasting and Social Change*, 161(August).
<https://doi.org/10.1016/j.techfore.2020.120284>
- Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods* (Twelfth). McGraw-Hill/Irwin.
- Creswell, J. W. (1985). *Faculty Research Performance: Lessons from the Sciences and the Social Sciences*. ASHE-Association for the Study of Higher Education.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Fourth). SAGE Publications, Inc.
- Cronin, J. J., & Taylor, S. A. (1992). Measuring Service Quality: A Reexamination and Extension. *Journal of Marketing*, 56(3), 55–68.
- Cruz, N. M., Pérez, V. M., & Cantero, C. T. (2009). The influence of employee motivation on knowledge transfer. *Journal of Knowledge Management*, 13(6), 478–490. <https://doi.org/10.1108/13673270910997132>
- Cui, C. C., Lewis, B. R., & Park, W. (2003). Service quality measurement in the banking sector in South Korea. *International Journal of Bank Marketing*, 21(4), 191–201. <https://doi.org/10.1108/02652320310479187>

- Cuthbert, P. F. (1996). Managing service quality in HE: Is SERVQUAL the answer?
Part 1. *Managing Service Quality: An International Journal*, 6(2), 11–16.
<https://doi.org/10.1108/09604529610109701>
- Daniel, J. (2012). *Sampling Essentials: Practical Guidelines for Making Sampling Choices*. SAGE Publications, Inc.
- Datthey, K., Westerheijden, D. F., & Hofman, W. H. A. (2017). Impact of accreditation on improvement of operational inputs after two cycles of assessments in some Ghanaian universities. *Quality in Higher Education*, 23(3), 213–229.
<https://doi.org/10.1080/13538322.2017.1407398>
- Dauda, A., Maishanu, M. M., & Mawoli, M. A. (2013). Effect of Internal Service Quality on Employee Job Satisfaction: Evidence from Abubakar Gimba Library, IBB University, Lapai – Nigeria. *American International Journal of Contemporary Research*, 3(6), 88–96.
- Daumiller, M., & Dresel, M. (2023). Temporal dynamics between faculty goals, burnout/engagement, and performance in teaching and research: A latent change score approach. *Contemporary Educational Psychology*, 72(102124).
<https://doi.org/10.1016/j.cedpsych.2022.102124>
- Daumiller, M., Stupnisky, R., & Janke, S. (2020). Motivation of higher education faculty: Theoretical approaches, empirical evidence, and future directions. *International Journal of Educational Research*, 99(December 2019), 101502.
<https://doi.org/10.1016/j.ijer.2019.101502>
- Dedeke, A. (2003). Service quality: A fulfilment-oriented and interactions-centred approach. *Managing Service Quality: An International Journal*, 13(4), 276–289.
<https://doi.org/10.1108/09604520310484699>
- Degl’Innocenti, M., Matousek, R., & Tzeremes, N. G. (2019). The interconnections of

- academic research and universities' "third mission": Evidence from the UK. *Research Policy*, 48(9), 1–38. <https://doi.org/10.1016/j.respol.2019.05.002>
- Dew, J. (2009). Quality Issues in Higher Education. *The Journal for Quality and Participation*, 32(1), 4–9. <https://www-proquest-com.eserv.uum.edu.my/docview/219159720/fulltextPDF/8FE75CF6F1C544D5P/Q/3?accountid=42599>
- Dewi, N. N., & Wibowo, R. (2020). The effect of leadership style, organizational culture and motivation on employee performance. *Management Science Letters*, 10(9), 2037–2044. <https://doi.org/10.5267/j.msl.2020.2.008>
- Diaz-Saenz, H. R. (2011). Transformational Leadership. In Alan Bryman, D. Collinson, K. Grint, B. Jackson, & M. Uhl-Bien (Eds.), *The SAGE Handbook of Leadership* (First, p. 551). SAGE Publications, Inc.
- Dicker, R., Garcia, M., Kelly, A., & Mulrooney, H. (2019). What does 'quality' in higher education mean? Perceptions of staff, students and employers. *Studies in Higher Education*, 44(8), 1425–1441. <https://doi.org/10.1080/03075079.2018.1445987>
- Dill, D. D. (2016). Developing a Quality Culture in Universities : Internal Quality Assurance as an Interconnected System of Tools and Processes. *Policy Forum on Higher Education Quality and Employability*, June, 19.
- Dinh, H. T., Nguyen, Q. A. ., Phan, M. T., Pham, K. T., Nguyen, T., & Nguyen, H. T. (2021). Vietnamese Students' Satisfaction toward Higher Education Service: The Relationship between Education Service Quality and Educational Outcomes. *European Journal of Educational Research*, 10(1), 1397–1410. <https://doi.org/10.12973/eu-jer.10.3.1397>
- Dionne, S. D., Yammarino, F. J., Atwater, L. E., & Spangler, W. D. (2004).

- Transformational leadership and team performance. *Journal of Organizational Change Management*, 17(2), 177–193.
- <https://doi.org/10.1108/09534810410530601>
- Doh, S., Jang, D., Kang, G., & Han, D. S. (2018). Research Funding and Performance of Academic Researchers in South Korea. *Review of Policy Research*, 35(1), 31–60. <https://doi.org/10.1111/ropr.12261>
- Dong, B. (2023). A Systematic Review of the Transactional Leadership Literature and Future Outlook. *Academic Journal of Management and Social Sciences*, 2(3), 21–25. <https://doi.org/10.54097/ajmss.v2i3.7972>
- Donlagić, S., & Fazlić, S. (2015). Quality Assessment in Higher Education Using the SERVQUAL Model. *Management*, 20(1), 39–57.
- Dorfman, P. W., & House, R. J. (2004). Cultural Influences on Organizational Leadership: Literature Review, Theoretical Rationale, and GLOBE Project Goals. In *Culture, leadership, and Organizations. The GLOBE study of 62 societies* (pp. 51–53). SAGE Publications, Inc (2004).
- Dörnyei, Z., & Ushioda, E. (2011). *Teaching and Researching Motivation* (C. N. Candlin & D. R. Hall (eds.); Second). Pearson Education Limited.
- Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. *Strategic Management Journal*, 32(3), 254–279.
- <https://doi.org/10.1002/smj.882>
- Durning, B., & Jenkins, A. (2005). Teaching/research relations in departments: The perspectives of built environment academics. *Studies in Higher Education*, 30(4), 407–426. <https://doi.org/10.1080/03075070500160046>
- Dwibedi, L. (2017). Impact of Employees Motivation on Organizational Performance.

- Academic Voices - A Multidisciplinary Journal*, 7(1), 24–30.
- Dzimińska, M., Fijałkowska, J., & Sułkowski, Ł. (2018). Trust-based quality culture conceptual model for higher education institutions. *Sustainability (Switzerland)*, 10(8). <https://doi.org/10.3390/su10082599>
- Eagle, L., & Brennan, R. (2007). Are students customers? TQM and marketing perspectives. *Quality Assurance in Education*, 15(1), 44–60.
<https://doi.org/10.1108/09684880710723025>
- Edgar, F., & Geare, A. (2013). Factors influencing university research performance. *Studies in Higher Education*, 38(5), 774–792.
<https://doi.org/10.1080/03075079.2011.601811>
- Edvardsson, B., & Olsson, J. (1996). Key concepts for new service development. *The Service Industries Journal*, 16(2), 140–164.
<https://doi.org/10.1080/02642069600000019>
- Ejere, E. I., & Abasilim, U. D. (2013). Impact of Transactional and Transformational Leadership Styles on Organisational Performance: Empirical Evidence from Nigeria. *The Journal of Commerce*, 5(1), 30–41.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, and Computers*, 28(1), 1–11.
<https://doi.org/10.3758/BF03203630>
- Eshghi, A., Roy, S. K., & Ganguli, S. (2008). Service quality and customer satisfaction: An empirical Investigation in Indian Mobile Telecommunications Services. *Marketing Management Journal*, 18(2), 119–144.
<https://doi.org/10.1016/j.jairtraman.2014.10.001>
- Esmail, H. A. H. (2020). The Contribution of Education Expenditure in Saudi Universities to Achieve Economic Development. *International Education*

- Studies*, 13(3), 90–99. <https://doi.org/10.5539/ies.v13n3p90>
- EUA. (2006). *Quality Culture in European Universities : A Bottom-Up Approach*.
http://www.eua.be/eua/jsp/en/upload/Quality_Culture_2002_2003.1150459570109.pdf
- Falk, R. F., & Miller, N. B. (1992). *A Primer for Soft Modeling* (First). The University of Akron Press.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (Fifth). SAGE Publications Ltd.
- Finsen, L. (2002). Faculty as Institutional Citizens: Reconceiving Service and Governance Work. In E. McMillin, Linda A. & E. Berberet, William G. (Eds.), *A New Academic Compact: Revisioning the Relationship between Faculty and Their Institutions* (p. 235). Anker Publishing Company, Inc.,.
- Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1995). The Impact of Quality Management Practices on Performance and Competitive Advantage. *Decision Sciences*, 26(5), 659–691. <https://doi.org/10.1111/j.1540-5915.1995.tb01445.x>
- Fornell, C., & Cha, J. (1994). Partial Least Squares. In *Advanced Methods of Marketing Research* (pp. 52–78). Blackwell-Business.
<https://doi.org/10.1049/ep.1977.0282>
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18, 39–50.
- Fowler, F. J. (2014). *Survey Research Methods* (Fifth). SAGE Publications, Inc.

- Furrer, O., Liu, B. S. C., & Sudharshan, D. (2000). The Relationships between Culture and Service Quality Perceptions: Basis for Cross-Cultural Market Segmentation and Resource Allocation. *Journal of Service Research*, 2(4), 355–371. <https://doi.org/10.1177/109467050024004>
- Galbraith, C. S., & Merrill, G. B. (2012). Faculty Research Productivity and Standardized Student Learning Outcomes in a University Teaching Environment: A Bayesian Analysis of Relationships. *Studies in Higher Education*, 37(4), 469–480. <https://doi.org/10.1080/03075079.2010.523782>
- Gardner, J. W. (1990). *On Leadership* (First). The Free Press.
- Geelmaale, A. M. A. (2019). Impact of Employee Motivation on Organizational Performance. *International Journal of Advanced Research*, 7(10), 166–172. <https://doi.org/10.21474/IJAR01/9818>
- Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101–107. <https://academic.oup.com/biomet/article-abstract/61/1/101/264348>
- George, L., & Sabhapathy, T. (2014). Work Motivation of Teachers: Relationship with Organizational Culture. *European Journal of Educational Sciences*, 1(2), 194–207. <https://ejes.eu/wp-content/uploads/2016/01/1-2-17.pdf>
- Germano, M. A. (2010). Leadership Style and Organizational Impact. *Library Worklife*, 1–2. <http://ala-apa.org/newsletter/2008/06/15/a-brief-introduction-to-performance-management/>
- Goethals, G. R., Sorenson, G. R., & Burns, J. M. (2004). Encyclopedia of Leadership. In *SAGE Publications*. SAGE Publications, Inc (2004).
- Gökalp, P., & Soran, S. (2022). The Impact of Leadership Styles on Performance and Mediating Effect of Organizational Culture: A Study in Flight Schools.

- Transportation Research Procedia*, 65(C), 304–317.
<https://doi.org/10.1016/j.trpro.2022.11.035>
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge Management: An Organizational Capabilities Perspective. *Jurnal of Management Information Systems*, 18(1), 185–214. <http://www.jstor.org/stable/40398521>
- Google Scholar. (2021). *Leadership*. Available Online.
https://scholar.google.com.au/scholar?as_sdt=0%2C5&btnG=&hl=en&inst=17286985695407636921&q=Leadership
- Goos, M., & Salomons, A. (2017). Measuring teaching quality in higher education: assessing selection bias in course evaluations. *Research in Higher Education*, 58(4), 341–364. <https://doi.org/10.1007/s11162-016-9429-8>
- Gozukara, I. (2016). Leadership and Managerial Effectiveness in Higher Education. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(1), 73–82. <https://doi.org/10.6007/ijarafms/v6-i1/1981>
- Grace, M. (2003). Origins of Leadership: The Etymology of Leadership. *International Leadership Association*, 1–16. <http://www.ila-net.org/Publications/Proceedings/2003/mgrace.pdf>
- Greatbatch, D., & Holland, J. (2016). *Teaching Quality in Higher Education: Literature Review and Qualitative Research* (Issue MAY).
- Grove, S. K., Burns, N., & Gray, J. R. (2013). *The Practice of Nursing Research: Appraisal, Synthesis, and Generation of Evidence* (Seventh). Elsevier Inc.
- Guadagnoli, E., & Velicer, W. F. (1988). Relation of Sample Size to the Stability of Component Patterns. *Psychological Bulletin*, 103(2), 265–275.
<https://doi.org/10.1037/0033-2909.103.2.265>
- Gupta, P., & Kaushik, N. (2018). Dimensions of service quality in higher education –

- critical review (students' perspective). *International Journal of Educational Management*, 32(4), 580–605. <https://doi.org/10.1108/IJEM-03-2017-0056>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate Data Analysis* (Eighth). Cengage Learning EMEA.
<https://doi.org/10.1002/9781119409137.ch4>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (Second). SAGE Publications, Inc., Thousand oaks, California.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (Second). SAGE Publications, Inc. <https://doi.org/10.1080/1743727x.2015.1005806>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*. Springer Nature Switzerland AG. <https://doi.org/978-3-030-80519-7>
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–151.
<https://doi.org/10.2753/MTP1069-6679190202>
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning*, 46(1–2), 1–12.
<https://doi.org/10.1016/j.lrp.2013.01.001>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
<https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least

- squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121.
- <https://doi.org/10.1108/EBR-10-2013-0128>
- Hallo, L., Nguyen, T., Gorod, A., & Tran, P. (2020). Effectiveness of Leadership Decision-Making in Complex Systems. *Systems*, 8(5), 21.
- <https://doi.org/10.3390/systems8010005>
- Hama, J., Bawais, T., Sagsan, M., & Ertugan, A. (2020). The Impact of Service Quality on Student and Academic Staff Satisfaction within Higher Education Institutions : A Case Study of Sulaimani City in Northern Iraq. *Revista Argentina De Clínica Psicológica*, XXIX(5), 440–452.
- <https://doi.org/10.24205/03276716.2020.1042>
- Hanaysha, J. R., & Hussain, S. (2018). An Examination of the Factors Affecting Employee Motivation in the Higher Education Sector. *Asia-Pacific Journal of Management Research and Innovation*, 14(1–2), 22–31.
- <https://doi.org/10.1177/2319510x18810626>
- Handayanto, E. (2018). *Mediating Role of Satisfaction on Relationship between Service Quality and Word of Mouth in Islamic Private Universities in Indonesia*. 231(Amca), 530–534. <https://doi.org/10.2991/amca-18.2018.147>
- Hanh, N. D. (2020). A review of issues of quality assurance and quality accreditation for higher education institutions and the situation in Vietnam. *Accreditation and Quality Assurance*, 25(4), 273–279. <https://doi.org/10.1007/s00769-020-01439-3>
- Haq, M. A., & Kuchinke, K. P. (2016). Impact of leadership styles on employees' attitude towards their leader and performance: Empirical evidence from Pakistani banks. *Future Business Journal*, 2(1), 54–64.
- <https://doi.org/10.1016/j.fbj.2016.05.002>

- Harman, H. H. (1967). *Modern Factor Analysis* (First). University Press of Chicago.
- Harvey, L. (2004). *Analytic Quality Glossary*. Quality Research International.
<http://www.qualityresearchinternational.com/glossary/>
- Hasan, M., & Hosen, M. Z. (2020). The Quality of University Service: Its Impact on Students' Satisfaction and Loyalty in Bangladesh State University. *International Journal of Asian Education*, 1(3), 135–146. <https://doi.org/10.46966/ijae.v1i3.46>
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408–420.
<https://doi.org/10.1080/03637750903310360>
- Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (1st ed.). The Guilford Press.
<https://doi.org/10.7312/lie18789-006>
- Hayes, A. F., & Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behaviour Research and Therapy*, 98, 39–57.
<https://doi.org/10.1016/j.brat.2016.11.001>
- HEC. (2021a). *Accreditation Councils*. Higher Education Commission, Pakistan.
<https://hec.gov.pk/english/services/universities/QAA/Pages/Accreditation-Councils.aspx>
- HEC. (2021b). *Quality Enhancement Cells in HEIs*. Higher Education Commission, Pakistan. <https://hec.gov.pk/english/services/universities/QAA/Pages/QECs.aspx>
- HEC. (2021c). *Recognised Universities*. Higher Education Commission, Pakistan.
<https://hec.gov.pk/english/universities/pages/recognised.aspx>
- Hedjazi, Y., & Behravan, J. (2011). Study of factors influencing research productivity of agriculture faculty members in Iran. *Higher Education*, 62(5), 635–647.

<https://doi.org/10.1007/s10734-011-9410-6>

Hegji, A. (2020). *An Overview of Accreditation of Higher Education in the United States* (Vol. R43826, Issue 9). <https://crsreports.congress.gov>

Henard, F., & Leprince-Ringuet, S. (2008). *The Path to Quality Teaching in Higher Education* (Issue June). <https://www.oecd.org/education/imhe/44150246.pdf>

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.

<https://doi.org/10.1007/s11747-014-0403-8>

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277–319. [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014)

Hermanu, A. I., Sari, D., Sondari, M. C., & Dimiyati, M. (2023). Higher education research performance parameters classified by systems theory: antecedents for the development of assessment models. *Journal of Science and Technology Policy Management*. <https://doi.org/10.1108/JSTPM-05-2022-0089>

Herminingsih, A., Arijanto, A., Ralmafatma, & Yamin, A. (2020). Visionary Leadership for Implementing Quality Culture: Empirical Evidence in Indonesian Private Higher Education. *Journal of Advanced Management Science*, 8(4), 135–140. <https://doi.org/10.18178/joams.8.4.135-140>

Hersey, P. H., & Blanchard, K. H. (1988). *Management of Organizational Behavior*. In *Prentice-Hall, Inc.* (5th ed.). Prentice-Hall, Inc.
<https://doi.org/10.1097/00006223-197811000-00009>

Hesli, V. L., & Lee, J. M. (2011). Faculty Research Productivity: Why Do Some of Our Colleagues Publish More than Others? *PS: Political Science & Politics*,

- 44(02), 393–408. <https://doi.org/10.1017/s1049096511000242>
- Hien, P. D. (2010). A comparative study of research capabilities of East Asian countries and implications for Vietnam. *Higher Education*, 60(6), 615–625. <https://doi.org/10.1007/s10734-010-9319-5>
- Hill, F. M. (1995). Managing service quality in higher education: the role of the student as primary consumer. *Quality Assurance in Education*, 3(3), 10–21.
- Hilman, H., Abubakar, A., & Kaliapan, N. (2017). The effect of quality culture on university performance. *Journal of Business and Retail Management Research*, 11(4), 25–33. <https://doi.org/10.24052/jbrmr/v11is04/teoqcoup>
- Ho, S. K., & Wearn, K. (1995). A TQM model for higher education and training. *Training for Quality*, 3(2), 25–33.
- Hoodbhoy, P. (2009). Pakistan's higher education system - What went wrong and how to fix it. *Pakistan Development Review*, 48(4), 581–594. <https://doi.org/10.30541/v48i4iipp.581-594>
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies. In *SAGE Publications, Inc.* SAGE Publications, Inc.
- Hoxha, A. (2019). Transformational and Transactional Leadership Styles on Employee Performance. *International Journal of Humanities and Social Science Invention*, 8(11), 46–58.
- Hu, Q., & Gill, T. G. (2000). IS Faculty Research Productivity: Influential Factors and Implications. *Information Resources Management Journal (IRMJ)*, 13(2), 15–25. <https://doi.org/10.4018/irmj.2000040102>
- Hudson, S., Hudson, P., & Miller, G. A. (2004). The measurement of service quality in the tour operating sector: A methodological comparison. *Journal of Travel*

- Research*, 42(3), 305–312. <https://doi.org/10.1177/0047287503258839>
- Hui, C. H., Cheng, K., & Gan, Y. (2003). Psychological collectivism as a moderator of the impact of supervisor-subordinate personality similarity on employees' service quality. *Applied Psychology*, 52(2), 175–192.
<https://doi.org/10.1111/1464-0597.00130>
- Hung, L. N. Q. (2020). Teachers' motivation and its influence on quality education: A study at a center for foreign languages in Vietnam. *Can Tho University Journal of Science*, 12(3), 17–26. <https://doi.org/10.22144/ctu.jen.2020.020>
- Husain, R., Arifin, A., Cakranegara, P., Victornie, I., Perdana, I., & Nugroho, B. S. (2022). Analysis of student satisfaction with the quality of education services. *Cypriot Journal of Educational Sciences*, 17(2), 343–356.
<https://doi.org/10.18844/CJES.V17I2.6802>
- Hussain, T. (2015). Quality in higher education- Evidence from Pakistan. *Journal of Independent Studies and Research-Management, Social Sciences and Economics*, 13(2), 83–98. <https://doi.org/10.31384/jisrmsse/2015.13.2.6>
- Hussein, I. A., & Simba, F. (2017). Effect of Employee Motivation on Organizational Performance of Mogadishu Al Port in Somalia. *The Strategic Journal of Business & Change Management*, 4(2 (6)), 89–97. www.strategicjournals.com,
- Hwang, B. G., Shan, M., & Looi, K. Y. (2018). Key constraints and mitigation strategies for prefabricated prefinished volumetric construction. *Journal of Cleaner Production*, 183, 183–193. <https://doi.org/10.1016/j.jclepro.2018.02.136>
- Hwang, H. B., & Teo, C. (2001). Translating customers' voices into operations requirements: A QFD application in higher education. *International Journal of Quality and Reliability Management*, 18(2), 195–225.
<https://doi.org/10.1108/02656710110379075>

- Hyde-Clarke, N. (2023). Academic leadership and leadership styles in strategic plans: a study of five top-ranked public universities in South Africa. *Cogent Social Sciences*, 9(1), 1–14. <https://doi.org/10.1080/23311886.2023.2220533>
- Icli, G. E., & Anil, N. K. (2014). The HEDQUAL scale: A new measurement scale of service quality for MBA programs in higher education. *South African Journal of Business Management*, 45(3), 31–43. <https://doi.org/10.4102/sajbm.v45i3.129>
- Idris, I., Suyuti, A., Supriyanto, A. S., & AS, N. (2022). Transformational Leadership, Political Skill, Organizational Culture, and Employee Performance: A Case from Tourism Company in Indonesia. *GeoJournal of Tourism and Geosites*, 40(1), 104–110. <https://doi.org/10.30892/GTG.40112-808>
- Inceoglu, I., Segers, J., & Bartram, D. (2012). Age-related differences in work motivation. *Journal of Occupational and Organizational Psychology*, 85(2), 300–329. <https://doi.org/10.1111/j.2044-8325.2011.02035.x>
- Innocent, O. (2015). *The Performance of Commercial Banks: The Role of Organizational Culture as a Mediator and External Environment as a Moderator* (Issue May). Universiti Utara Malaysia.
- Iqbal, A., Latif, F., Marimon, F., Sahibzada, U. F., & Hussain, S. (2019). From knowledge management to organizational performance: Modelling the mediating role of innovation and intellectual capital in higher education. *Journal of Enterprise Information Management*, 32(1), 36–59. <https://doi.org/10.1108/JEIM-04-2018-0083>
- Iqbal, H. S., Akhtar, M. M. S., & Saleem, M. (2020). A Study of Decision Making Styles of Academic Managers in Public Sector Universities of the Punjab. *Bulletin of Education and Research*, 42(2), 181–196. <https://files.eric.ed.gov/fulltext/EJ1280788.pdf>

- Iqbal, S., Ashfaq, T., & Moosa, K. (2022). Students' perceived quality of academic programs in higher education institutions: an empirical study. *Pakistan Journal of Educational Research*, 5(4), 1–22. <https://doi.org/10.52337/pjer.v5i4.645>
- Iqbal, S., Ashfaq, T., Taib, C. A. B., & Razalli, M. R. (2023). The effect of quality culture on service quality of public and private Universities : A comparative analysis. *PLOS ONE*, 18(4), 1–19. <https://doi.org/10.1371/journal.pone.0283679>
- Islam, D. Z., Khalid, N., & Arshad, I. (2021). Performance of Public Universities in Pakistan: Mediating Role of Cultural Factors. *Journal of Contemporary Issues in Business and Government*, 27(5), 1–12.
<https://doi.org/10.47750/cibg.2021.27.05.001>
- ISO 21001. (2018). *ISO 21001:2018 (en) Educational Organizations - Management systems for educational organizations - Requirements with guidance for use*. International Organization for Standardization.
<https://www.iso.org/obp/ui/#iso:std:iso:21001:ed-1:v1:en>
- Israel, A. N. (2016). Chief Executive Officer Leadership Role and Small and Medium Enterprises Performance in Southwest Nigeria. *International Journal of Advances in Management and Economics*, 5(5), 40–49.
- Jacobsen, C. B., & Andersen, L. B. (2015). Is Leadership in the Eye of the Beholder? A Study of Intended and Perceived Leadership Practices and Organizational Performance. *Public Administration Review*, 75(6), 829–841.
<https://doi.org/10.1111/puar.12380>
- Jaffee, D. (2001). *Organization Theory: Tension and Change* (First). The McGraw-Hill Companies, Inc.
- Jain, S. K., & Gupta, G. (2004). Measuring Service Quality: SERVQUAL vs. SERVPERF Scales. *VIKALPA*, 29(2), 25–37.

<https://doi.org/10.1177/0256090920040203>

Jakobsen, M., & Jensen, R. (2015). Common method bias in public management studies. *International Public Management Journal*, 18(1), 3–30.

<https://doi.org/10.1080/10967494.2014.997906>

Jalal, H., Buzdar, M. A., & Mohsin, M. N. (2017). Accreditation and Quality Enhancement Dynamics in Higher Education. *Journal of Educational Research*, 20(2), 127–145. http://jer.iub.edu.pk/journals/JER-Vol-20.No-2/10_Accreditation_and_Quality_Enhancement_Dynamics_in_Higher_Education.pdf

Jalal, H., Buzdar, M. A., & Naoreen, B. (2020). Effectiveness of Accreditation in Assuring the Quality of Teacher Education Programs: Exploring the Case of an Underdeveloped Country. *Global Social Sciences Review (GSSR)*, V(I), 84–94. [https://doi.org/10.31703/gssr.2020\(v-i\).09](https://doi.org/10.31703/gssr.2020(v-i).09)

Jauch, L. R., & Glueck, W. F. (1975). Evaluation of University Professors' Research Performance. *Management Science*, 22(1), 66–75.

<https://doi.org/10.1287/mnsc.22.1.66>

Javed, Y., Ahmad, S., & Khahro, S. H. (2020). Evaluating the Research Performance of Islamabad-Based Higher Education Institutes. *SAGE Open*, 10(1).

<https://doi.org/10.1177/2158244020902085>

Jawad, S., Jamshaid, I., & Wahab, F. (2015). Quality Culture in Higher Education Institutes: Perspective of different Stakeholders. *VFAST Transactions on Education and Social Sciences*, 6(2), 72–79.

<https://doi.org/10.21015/vtess.v6i2.309>

Jing, F. F., & Avery, G. C. (2008). Where Have The Mediating Variables In Leadership-Performance Research Gone? *Journal of Business & Economics*

- Research*, 6(10), 73–84. <https://doi.org/10.19030/jber.v6i10.2481>
- Jordan, P. J., & Troth, A. C. (2019). Common method bias in applied settings: The dilemma of researching in organizations. *Australian Journal of Management*, 1–12. <https://doi.org/10.1177/0312896219871976>
- Jun, M., & Cai, S. (2010). Examining the relationships between internal service quality and its dimensions, and internal customer satisfaction. *Total Quality Management and Business Excellence*, 21(2), 205–223. <https://doi.org/10.1080/14783360903550095>
- Jung, D. I., & Sosik, J. J. (2002). Transformational leadership in work groups: The role of empowerment, cohesiveness, and collective-efficacy on perceived group performance. *Small Group Research*, 33(3), 313–336. <https://doi.org/10.1177/10496402033003002>
- Kang, G. D., & James, J. (2004). Service quality dimensions: An examination of Grönroos's service quality model. *Managing Service Quality: An International Journal*, 14(4), 266–277. <https://doi.org/10.1108/09604520410546806>
- Kartini, K., Samdin, S., Ramli, R., Sinarwanti, S., & Zaludin, Z. (2023). The effect of quality culture on service quality; infrastructure quality as a mediation variable. *International Journal of Applied Economics, Finance and Accounting*, 17(2), 237–245. <https://doi.org/10.33094/ijaefa.v17i2.1121>
- Kashif, M., Ramayah, T., & Sarifuddin, S. (2014). PAKSERV – measuring higher education service quality in a collectivist cultural context. *Total Quality Management and Business Excellence*, 27(3–4), 14. <https://doi.org/10.1080/14783363.2014.976939>
- Katwalo, A. M., & Asienga, I. (2015). Influence of Quality Culture on Performance of Research Institutions in Kenya. *African Journal of Business and Economic*

- Research*, 10(1), 25–54. <https://hdl.handle.net/10520/EJC171071>
- Khalid, S. ., Ali, K. A. M., & Makhbul, Z. K. M. (2019). Assessing The Effect of Higher Education Service Quality on Job Satisfaction Among Lecturers in Premier Polytechnics HEdPERF Model. *Scientific Journal of Logistics*, 15(3), 425–436. <http://doi.org/10.17270/J.LOG.2019.356>
- Khalifa, B., & Ayoubi, R. M. (2015). Leadership styles at Syrian higher education: What matters for organizational learning at public and private universities? *International Journal of Educational Management*, 29(4), 477–491. <https://doi.org/10.1108/IJEM-03-2014-0036>
- Khan, I. U., Gan, G. G. G., Khan, M. T. I., & Saif, N. (2023). Role of Organizational Justice in Linking Leadership Styles and Academics' Performance in Higher Education. *Administrative Sciences*, 13(4), 1–17. <https://doi.org/10.3390/admsci13040101>
- Khan, M. S., & Din, S. U. (2016). Exploring the Relationship Between Leadership Styles and Organizational Commitment With Mediating Behaviour of Motivation. *Science International Lahore*, 28(4), 417–422.
- Khan, S., Asghar, M., & Zaheer, A. (2014). Influence of leadership style on employee job satisfaction and firm financial performance: A study of banking sector in islamabad, Pakistan. *Actual Problems of Economics*, 155(5), 374–384.
- Khan, S., Shah, S. M. H., & Khan, T. M. (2018). An Investigation of Attitudes towards the Research Activities of University Teachers. *Bulletin of Education and Research*, 40(1), 215–230.
- Khan, T., Bibi, I., & Khan, R. N. (2018). Higher Education Commission (HEC), Pakistan: Its Current role and Responsibilities, Problems in Higher Education, and Suggested Futuristic Reforms (In a Futuristic Milieu). *Pakistan Journal of*

- Society, Education and Language*, 4(1), 120–138.
- Kilic, D. (2016). An Examination of Using Self-, Peer-, and Teacher-Assessment in Higher Education: A Case Study in Teacher Education. *Higher Education Studies*, 6(1), 136–144. <https://doi.org/10.5539/hes.v6n1p136>
- Kim, H.-Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, 38(1), 52. <https://doi.org/10.5395/rde.2013.38.1.52>
- Kivistö, J., Pekkola, E., Berg, L. N., Hansen, H. F., Geschwind, L., & Lyytinen, A. (2019). Performance in Higher Education Institutions and Its Variations in Nordic Policy. In *Reforms, Organizational Change and Performance in Higher Education: A Comparative Account from the Nordic Countries* (pp. 37–67). Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-11738-2>
- Kiyak, M., Bozaykut, T., Güngör, P., & Aktaş, E. (2011). Strategic leadership styles and organizational financial performance: A qualitative study on private Hospitals. *Procedia - Social and Behavioral Sciences*, 24, 1521–1529. <https://doi.org/10.1016/j.sbspro.2011.09.090>
- Kiziltepe, Z. (2008). Motivation and demotivation of university teachers. *Teachers and Teaching: Theory and Practice*, 14(5–6), 515–530. <https://doi.org/10.1080/13540600802571361>
- Kline, R. B. (2011). Principles and Practice of Structural Equation Modeling. In *Structural Equation Modeling* (Third). The Guilford Press.
- Kock, F., Berbekova, A., & Assaf, A. G. (2021). Understanding and managing the threat of common method bias: Detection, prevention and control. *Tourism Management*, 86. <https://doi.org/10.1016/j.tourman.2021.104330>
- Kock, N. (2015). Common method bias in PLS-SEM: A Full Collinearity Assessment

- Approach. *International Journal of E-Collaboration*, 11(4), 1–10.
<https://doi.org/10.4018/ijec.2015100101>
- Kock, N. (2017). Common Method Bias: A Full Collinearity Assessment Method for PLS-SEM. In *Partial Least Squares Path Modeling: Basic Concepts, Methodological Issues and Applications* (pp. 245–257). Springer International Publishing. https://doi.org/10.1007/978-3-319-64069-3_6
- Köse, M. F., & Korkmaz, M. (2019). Why are some universities better? An evaluation in terms of organizational culture and academic performance. *Higher Education Research and Development*, 38(6), 1213–1226.
<https://doi.org/10.1080/07294360.2019.1634679>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), 607–610.
<https://doi.org/10.1177/001316447003000308>
- Krishnan, V. R. (1998). Influencing the transformational leader: Strategies used by followers. *Association of Management and the International Association of Management, Chicago, 16 (1), Leadership and Leaders Division, August 1998*, 21–27.
<https://sites.google.com/site/venkatkrishnan/home/writings/fulltext/1998iaom.pdf>
- Ksenija, D., & Berislav, Z. (2013). Use of Power Analysis in Choosing Appropriate Sample Size for Quality Inspection. *Business Excellance*, 7(1), 147–160.
<https://hrcak.srce.hr/106144>
- Kumar, M., Talib, S. A., & Ramayah, T. (2013). *Business Research Methods* (First). Oxford University Press.
- Kumar, P., Shukla, B., & Passey, D. (2020). Impact of accreditation on quality and

- excellence of higher education institutions. *Investigacion Operacional*, 41(2), 151–167. <https://eprints.lancs.ac.uk/id/eprint/141916/>
- Kwan, P. Y. K., & Ng, P. W. K. (1999). Quality indicators in higher education - comparing Hong Kong and China's students. *Managerial Auditing Journal*, 14(1/2), 20–27. <https://doi.org/10.1108/02686909910245964>
- La Rotta, D., Usuga, O. C., & Clavijo, V. (2020). Perceived service quality factors in online higher education. *Learning Environments Research*, 23(2), 251–267. <https://doi.org/10.1007/s10984-019-09299-6>
- Ladhari, R. (2008). Alternative measures of service quality: A review. *Managing Service Quality*, 18(1), 65–86. <https://doi.org/10.1108/09604520810842849>
- Ladhari, R. (2009). A review of twenty years of SERVQUAL research. *International Journal of Quality and Service Sciences*, 1(2), 172–198. <https://doi.org/10.1108/17566690910971445>
- Lakens, D., Adolphi, F. G., Albers, C. J., Anvari, F., Apps, M. A. J., Argamon, S. E., Baguley, T., Becker, R. B., Benning, S. D., Bradford, D. E., Buchanan, E. M., Caldwell, A. R., Calster, B. V., Carlsson, R., Chen, S. C., Chung, B., Colling, L. J., Collins, G. S., Crook, Z., ... Zwaan, R. A. (2018). Justify your alpha. *Nature Human Behaviour*, 2(3), 168–171. <https://doi.org/10.1038/s41562-018-0311-x>
- Lambert, D. M., & Harrington, T. C. (1990). Measuring Nonresponse Bias in Customer Service Mail Surveys. *Journal of Business Logistics*, 11(2), 5–25.
- Land, R., & Gordon, G. (2015). Teaching Excellence Initiatives: Modalities and operational factors. In *The Higher Education Academy*. <http://www.ncbi.nlm.nih.gov/pubmed/15003161> <http://cid.oxfordjournals.org/lookup/doi/10.1093/cid/cir991> <http://www.scielo.cl/pdf/udecada/v15n26/art06.pdf> <http://www.scopus.com/inward/record.url?eid=2-s2.0->

84861150233&partnerID=tZOtx3y1%5Cnhttp://

- Lashway, L. (2001). Leadership for Accountability. *Research Roundup*, 17(3), 4.
- Latif, K. F., Baloch, Q. B., & Rehman, S. U. (2016). Role of Internal Service Quality (ISQ) in the relationship between Internal Marketing and Organizational Performance. *City University Research Journal*, 6(1), 01–22.
- Latif, K. F., Latif, I., Sahibzada, U. F., & Ullah, M. (2019). In search of quality: measuring Higher Education Service Quality (HiEduQual). *Total Quality Management and Business Excellence*, 30(7–8), 768–791.
<https://doi.org/10.1080/14783363.2017.1338133>
- Lieberson, S., & O' Connor, J. F. (1972). Leadership and Organizational Performance: A Study of Large Corporations. *American Sociological Review*, 37(2), 117–130.
- Lindner, J. R., & Wingenbach, G. J. (2002). Communicating the Handling of Nonresponse Error in Journal of Extension Research in Brief Articles. *Journal of Extension*, 40(6).
- Liu, L. M. (2000). On Enterprise Quality Culture Aesthetic Evaluation. *Journal of Metallurgical Standardization and Quality*, 18(1), 69–72.
- Locke, E. A., & Latham, G. P. (2004). What should we do about motivation theory? Six recommendations for the twenty-first century. *Academy of Management Review*, 29(3), 388–403. <https://doi.org/10.5465/AMR.2004.13670974>
- Lycke, L., & Tano, I. (2017). Building quality culture in higher education. *International Journal of Quality and Service Sciences*, 9(3–4), 331–346.
<https://doi.org/10.1108/IJQSS-04-2017-0033>
- Lynn, P. (2019). The advantage and disadvantage of implicitly stratified sampling. *Methods, Data, Analyses: A Journal for Quantitative Methods and Survey*

- Methodology (Mda)*, 13(2), 253–266. <https://doi.org/10.12758/mda.2018.02>
- MacKenzie, S. B., Podsakoff, P. M., & Rich, G. A. (2001). Transformational and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science*, 29(2), 115–134. <https://doi.org/10.1177/03079459994506>
- Mackinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation confounding and suppression effect. *Prevention Science*, 1(4).
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychol Methods*, 7(1), 19–22.
- Mahesar, R. A. (2019, August 14). Institutes on rise ; performance in decline. *Pakistan Today*, 6. <https://archive.pakistantoday.com.pk/2019/08/14/institutes-on-rise-performance-in-decline/>
- Makhoul, S. A. A. (2019). Higher education accreditation, quality assurance and their impact to teaching and learning enhancement. *Journal of Economic and Administrative Sciences*, 35(4), 235–250. <https://doi.org/10.1108/jeas-08-2018-0092>
- Malhi, R. S. (2013). Creating and Sustaining: A Quality Culture. *Journal of Defense Management*, s3(002), 1–4. <https://doi.org/10.4172/2167-0374.s3-002>
- Maravelakis, P. (2019). The use of statistics in social sciences. *Journal of Humanities and Applied Social Sciences*, 1(2), 87–97. <https://doi.org/10.1108/jhass-08-2019-0038>
- Marcoulides, G. A., & Heck, R. H. (1993). Organizational Culture and Performance: Proposing and Testing a Model. *Organization Science*, 4(2), 209–225. <https://doi.org/10.1287/orsc.4.2.209>
- Mark, R. (1996). *Research Made Simple: A Handbook for Social Workers*. SAGE

Publications, Inc.

Martins, J. (2023). *Before you try transactional leadership, read this*. Asana.

<https://asana.com/resources/transactional-leadership>

Mastoi, A. G., Hai, L. X., & Saengkrod, W. (2019). Higher Education Service Quality Based on Students' Satisfaction in Pakistan. *European Scientific Journal*, 15(11), 32–62. <https://doi.org/10.19044/esj.2019.v15n11p32>

Mati, Y. (2018). Input resources indicators in use for accreditation purpose of higher education institutions. *Performance Measurement and Metrics*, 19(3), 176–185. <https://doi.org/10.1108/PMM-02-2018-0006>

McKeachie, W. J. (1997). Student ratings: The Validity of Use. *American Psychologist*, 52(11), 1218–1225. <http://dx.doi.org/10.1037/0003-066X.52.11.1218>

Memon, M. A., Cheah, J. H., Ramayah, T., Ting, H., & Chuah, F. (2018). Mediation analysis issues and recommendations. *Journal of Applied Structural Equation Modeling*, 2(1), I–IX. [https://doi.org/10.47263/JASEM.2\(1\)01](https://doi.org/10.47263/JASEM.2(1)01)

Meo, S. A., & Jawaid, S. A. (2021). Poor performance of Pak universities in global science. *Pakistan Journal of Medical Sciences*, 37(4), 927–930. <https://doi.org/10.12669/pjms.37.4.4603>

Mertens, D. M. (2015). *Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative, Qualitative, and Mixed Methods* (Fourth). SAGE Publications, Inc. USA.

Mertler, C. A. (2001). *Teacher Motivation and Job Satisfaction in the New Millennium*. <http://www.indiana.edu/~preschal>

Mgeni, T. O., & Nayak, P. (2016). Impact of transactional leadership style on business performance of SMEs in Tanzania. *Amity Business Review*, 17(1), 98–

- Mian, A. N. (2019). *Some thoughts on the issues in Higher Education and Universities in Pakistan and suggestions* (Issue September).
<https://doi.org/10.13140/RG.2.2.16641.40806>
- Michigan State University. (2021). *Transactional vs . Transformational Leadership: What's the Difference?* Available Online.
<https://www.michiganstateuniversityonline.com/resources/leadership/transactional-vs-transformational-leadership/>
- Mills, A. M., & Smith, T. A. (2011). Knowledge management and organizational performance: A decomposed view. *Journal of Knowledge Management*, 15(1), 156–171. <https://doi.org/10.1108/13673271111108756>
- Mills, G. E., & Gay, L. R. (2019). *Educational Research: Competencies for Analysis and Applications* (Vol. 6, Issue 2). Pearson Education, Inc.
- Minkov, M., & Hofstede, G. (2013). The Concept of Culture. In *Cross Cultural Analysis: The Science and Art of Comparing the World's Modern Societies and Their Cultures -Part I Understanding Culture* (pp. 9–18). SAGE Publications, Inc. https://www.sagepub.com/sites/default/files/upm-binaries/48150_ch_1.pdf
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1), 67–72. https://doi.org/10.4103/aca.ACA_157_18
- Mitreva, E., Filiposki, O., Taskov, N., Krivokapić, Z., & Jovanovic, J. (2017). Motivation: A significant factor for quality assurance in Macedonian companies. *International Journal of Development and Sustainability*, 6(9), 1170–1183.
- Molefe, G. N. (2010). Performance measurement dimensions for lecturers at selected universities: An international perspective. *SA Journal of Human Resource*

- Management*, 8(1), 1–13. <https://doi.org/10.4102/sajhrm.v8i1.243>
- Moodley, V. R. (2019). Towards a culture of quality assurance in optometric education in sub-Saharan Africa. *African Vision and Eye Health*, 78(1), 1–8. <https://doi.org/10.4102/aveh.v78i1.462>
- Moslehpour, M., Chau, K. Y., Zheng, J. J., Hanjani, A. N., & Hoang, M. (2020). The mediating role of international student satisfaction in the influence of higher education service quality on institutional reputation in Taiwan. *International Journal of Engineering Business Management*, 12(100), 1–16. <https://doi.org/10.1177/1847979020971955>
- Muda, H., Ali, M. H., & Jusoh, M. (2017). Measuring teaching and learning performance in higher education. *International Journal of Education, Psychology and Counseling*, 2(6), 57–70.
- Mursidi, A., Setyowati, R., & Wulandari, F. (2018). The Strategies to build quality culture based on knowledge management in higher education. In *Knowledge Management in Organizations* (Vol. 877). Springer International Publishing. https://doi.org/10.1007/978-3-319-95204-8_38
- Murtaza, K. G., & Hui, L. (2021). Higher Education in Pakistan: Challenges, Opportunities, Suggestions. *Education Quarterly Reviews*, 4(2), 213–219. <https://doi.org/10.31014/aior.1993.04.02.211>
- Mushtaq, A., Abid, M., & Qureshi, M. A. (2012). Assessment of research output at higher level of education in Pakistan. *Journal of the Pakistan Medical Association*, 62(8), 628–632.
- Musselin, C. (2018). New forms of competition in higher education. *Socio-Economic Review*, 16(3), 657–683. <https://doi.org/10.1093/SER/MWY033>
- Mwita, K. M., & Mrema, G. A. (2023). The Influence of Transformational and

- Transactional Leadership on Organisational Performance : A Case of a Higher Education Institution in Tanzania. *International Journal of Humanities, Education and Social Sciences*, 2(5), 1779–1789.
<https://doi.org/10.55227/ijhess.v2i5.477>
- Mwiya, B., Siachinji, B., Bwalya, J., Sikombe, S., Chawala, M., Chanda, H., Kayekesi, M., Sakala, E., Muyenga, A., & Kaulungombe, B. (2019). Are there study mode differences in perceptions of university education service quality? Evidence from Zambia. *Cogent Business and Management*, 6(1), 1–19.
<https://doi.org/10.1080/23311975.2019.1579414>
- Mynzhanova, G., Sailaubekov, N., & Kunanbayeva, D. (2018). The role of university faculty motivation in human resources development and university competitiveness growth. *Problems and Perspectives in Management*, 16(3), 92–101. [https://doi.org/10.21511/ppm.16\(3\).2018.08](https://doi.org/10.21511/ppm.16(3).2018.08)
- Nagel, P. J. A., & Cilliers, W. W. (1990). Customer Satisfaction: A Comprehensive Approach. *International Journal of Physical Distribution & Logistics Management*, 20(6), 2–46. <https://doi.org/10.1108/EUM00000000000366>
- Naor, M., Goldstein, S. M., Linderman, K. W., & Schroeder, R. G. (2008). The role of culture as driver of quality management and performance: Infrastructure versus core quality practices. *Decision Sciences*, 39(4), 671–702.
<https://doi.org/10.1111/j.1540-5915.2008.00208.x>
- Nason, R. S., & Wiklund, J. (2018). An Assessment of Resource-Based Theorizing on Firm Growth and Suggestions for the Future. *Journal of Management*, 44(1), 32–60. <https://doi.org/10.1177/0149206315610635>
- Nedwek, B. P., & Neal, J. E. (1994). Performance indicators and rational management tools: A comparative assessment of projects in North America and Europe.

Research in Higher Education, 35(1), 75–103.

<https://doi.org/10.1007/BF02496663>

Negash, M. (2010). Graduate competency, teaching effectiveness and faculty performance evaluation: Touching the nerve? *SSRN Electronic Journal*, 4(3), 1–17. <https://doi.org/10.2139/ssrn.1612854>

Neuman, W. L. (2007). *Basics of Social Research: Qualitative and Qunatitative Approaches* (Second). Pearson Education, Inc.

Neumann, A., & Terosky, A. L. (2007). To Give and to Receive: Recently Tenured Professors' Experiences of Service in Major Research Universities. *The Journal of Higher Education*, 78(3), 282–310.
<https://doi.org/10.1080/00221546.2007.11772317>

Ngoc-Tan, N., & Gregar, A. (2019). Knowledge Management and Its Impacts on Organisational Performance: An Empirical Research in Public Higher Education Institutions of Vietnam. *Journal of Information and Knowledge Management*, 18(2), 29. <https://doi.org/10.1142/S0219649219500151>

Nguyen, H. C., & Ta, T. T. H. (2017). Exploring impact of accreditation on higher education in developing countries: a Vietnamese view. *Tertiary Education and Management*, 24(2), 1–14. <https://doi.org/10.1080/13583883.2017.1406001>

Nisar, A. (2019, January 21). Challenges for Higher Education System in Pakistan. *Pakistan & Gulf Economist*.
<https://www.pakistaneconomist.com/2019/01/21/challenges-for-higher-education-system-in-pakistan/>

Njiro, E. (2016). Understanding Quality Culture in Assuring Learning at Higher Education Institutions. *Journal of Educational Policy and Entrepreneurial Research*, 3(2), 79–92. <https://doi.org/10.2139/ssrn.2743128>

- Noben, I., Maulana, R., Deinum, J. F., & Hofman, W. H. A. (2020). Measuring university teachers' teaching quality: a Rasch modelling approach. *Learning Environments Research*, 24(1), 87–107. <https://doi.org/10.1007/s10984-020-09319-w>
- Northouse, P. G. (2016). *Leadership: Theory and practice* (Seventh). SAGE Publications, Inc., Thousand oaks, California. [https://doi.org/10.1016/s0099-1333\(98\)90189-6](https://doi.org/10.1016/s0099-1333(98)90189-6)
- Noruzi, A., Dalfard, V. M., Azhdari, B., Nazari-Shirkouhi, S., & Rezazadeh, A. (2013). Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: An empirical investigation of manufacturing firms. *International Journal of Advanced Manufacturing Technology*, 64(5–8), 1073–1085. <https://doi.org/10.1007/s00170-012-4038-y>
- Nygren-Landgärds, C., Mårtensson, L. B., Pyykkö, R., Bjørnstad, J. O., & von Schoultz, R. (2022). Quality culture at Nordic Universities. *European Journal of Higher Education*, 1–20. <https://doi.org/10.1080/21568235.2022.2116066>
- O'Keefe, R. D., Lopez, J. R., Xu, J., & Lall, R. K. (2015). Teaching and Learning Objectives : The First Step in Assessment Programs. *Journal of Learning in Higher Education*, 11(1), 57–66.
- O'Shea, P. G., Foti, R. J., Hauenstein, N. M. A., & Bycio, P. (2009). Are the best leaders both transformational and transactional? A pattern-oriented analysis. *Leadership*, 5(2), 237–259. <https://doi.org/10.1177/1742715009102937>
- Obiwuru, T. C., Okwu, A. T., Akpa, V. O., & Nwankwere, I. A. (2011). Effects of Leadership Style on Organizational Performance: A Survey of Selected Small Scale Enterprises in IKOSI-KETU Council Development Area of Lagos State,

- Nigeria. *Australian Journal of Business and Management Research*, 1(7), 100–111.
- Ochola, G. O. (2018). Employee Motivation, An Organizational Performance Improvement Strategy (A Review on Influence of Employee Motivation on Organizational Performance). *JOJ Sciences*, 1(5), 120–125.
<https://doi.org/10.19080/JOJS.2018.01.555575>
- Odumeru, J. A., & Ifeanyi, G. O. (2013). Transformational vs. Transactional Leadership Theories: Evidence in Literature. *International Review of Management and Business Research*, 2(2), 355–361.
<https://www.irmbrjournal.com/papers/1371451049.pdf>
- Ohemeng, F. L. K., Amoako-Asiedu, E., & Darko, T. O. (2018). The relationship between leadership style and employee performance: An exploratory study of the Ghanaian public service. *International Journal of Public Leadership*, 14(4), 274–296. <https://doi.org/10.1108/ijpl-06-2017-0025>
- Ololube, N. P. (2006). Teachers Job Satisfaction and Motivation for School Effectiveness: An Assessment. *Essays in Education*.
https://www.researchgate.net/publication/229824348_Teachers_Job_Satisfaction_and_Motivation_for_School_Effectiveness_An_Assessment/citations
- Olugu, M. U., Audu, A. T., Akubo, P. E., & Akintola, S. K. (2018). Influence of intrinsic and extrinsic rewards on Organizational Performance in Nigeria. *International Journal of Advance Research in Science and Engineering*, 07(08), 26–39. <https://doc.presentica.com/12029496/5ec2160b32996.pdf>
- Omira, O. D. B. (2015). The effect of leadership styles and organizational culture on organizational performance of the public sector in Saudi Arabia [Universiti Utara Malaysia]. In *Universiti Utara Malaysia* (Issue June).

<https://etd.uum.edu.my/5363/1/s91891.pdf>

- Omolayo, B. (2007). Effect of Leadership Style on Job-Related Tension and Psychological Sense of Community in Work Organizations: A Case Study of Four Organizations in Lagos State, Nigeria. *Bangladesh E-Journal of Sociology*, 4(2), 30–37. [http://www.bangladeshsociology.org/Effect of Leadership Style4.2.pdf](http://www.bangladeshsociology.org/Effect%20of%20Leadership%20Style4.2.pdf)
- Orcan, F. (2020). Parametric or Non-parametric: Skewness to Test Normality for Mean Comparison. *International Journal of Assessment Tools in Education*, 7(2), 236–246. <https://doi.org/10.21449/ijate.656077>
- Osarenkhoe, A., Komunda, M. B., & Byarugaba, J. M. (2017). Service quality: A mediator of customer complaint behaviour and customer loyalty. *International Review of Management and Marketing*, 7(1), 197–208.
- Osborne, J. W. (2013). *Best Practices in Data Cleaning: A Complete Guide to Everything You Need to Do Before and After Collecting Your Data*. SAGE Publications, Inc. <https://doi.org/10.4135/9781526421036842861>
- Owlia, M. S., & Aspinwall, E. M. (1996). A framework for the dimensions of quality in higher education. *Quality Assurance in Education*, 4(2), 12–20.
- Oxford Learners's Dictionaries. (2021). *Definition of faculty*. Available Online. <https://www.oxfordlearnersdictionaries.com/definition/english/faculty?q=faculty>
- Özer, F., & Tinaztepe, C. (2014). Effect of Strategic Leadership Styles on Firm Performance: A Study in a Turkish SME. *Procedia - Social and Behavioral Sciences*, 150, 778–784. <https://doi.org/10.1016/j.sbspro.2014.09.059>
- Pallant, J. (2016). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS* (Sixth). McGraw-Hill Education.
- Palmer, A., & Collins, R. (2006). Perceptions of rewarding excellence in teaching:

- motivation and the scholarship of teaching. *Journal of Further and Higher Education*, 30(2), 193–205. <https://doi.org/10.1080/03098770600617729>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*, 49(4), 41–50.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A Multiple-Item Scale For Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*, 64(1), 12–40.
- Pellino, G. R., Blackburn, R. T., & Boberg, A. L. (1984). The dimensions of academic scholarship: Faculty and administrator views. *Research in Higher Education*, 20(1), 103–115. <https://doi.org/10.1007/BF00992038>
- Penrose, E. T. (1959). The Theory of the Growth of the Firm. In *John Wiley & Sons*.
- Perugini, M., Gallucci, M., & Costantini, G. (2018). A practical primer to power analysis for simple experimental designs. *International Review of Social Psychology*, 31(1), 1–23. <https://doi.org/10.5334/IRSP.181>
- Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making Sense of Factor Analysis: The Use of Factor Analysis for Instrument Development in Health Care Research*. SAGE Publications, Inc.
- Plichta, S. B., & Kelvin, E. A. (2013). *MUNRO'S Statistical Methods for Health Care Research* (Sixth). Wolters Kluwer Health.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method

- bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- Podsakoff, P. M., & Organ, D. W. (1986). Self-Reports in Organizational Research: Problems and Prospects. *Journal of Management*, 12(4), 531–544. <https://doi.org/10.1177/014920638601200408>
- Podsakoff, P. M., Todor, W. D., Grover, R. A., & Huber, V. L. (1984). Situational moderators of leader reward and punishment behaviors: Fact or fiction? *Organizational Behavior and Human Performance*, 34(1), 21–63. [https://doi.org/10.1016/0030-5073\(84\)90036-9](https://doi.org/10.1016/0030-5073(84)90036-9)
- Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (1980th ed., Issue 1). The Free Press. <https://doi.org/10.1002/smj.4250020110>
- Porter, M. E. (1985). Competitive Advantage: Creating and Sustaining Superior Performance. In *The Free Press*. The Free Press.
- Postareff, L., Katajavuori, N., Lindblom-Ylne, S., & Trigwell, K. (2008). Consonance and dissonance in descriptions of teaching of university teachers. *Studies in Higher Education*, 33(1), 49–61. <https://doi.org/10.1080/03075070701794809>
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717–731.
- Preacher, K. J., & Hayes, A. F. (2008a). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>

- Preacher, K. J., & Hayes, A. F. (2008b). Contemporary Approaches to Assessing Mediation in Communication Research. In A. F. Hayes, M. D. Slater, & L. B. Snyder (Eds.), *Advanced Data Analysis Methods For Communication Research* (pp. 13–54). SAGE Publications, Inc.
- Print, M., & Hattie, J. (1997). Measuring quality in universities: An approach to weighting research productivity. *Higher Education*, 33(4), 453–469.
<https://doi.org/10.1023/A:1002956407943>
- Puni, A., Hilton, S. K., & Quao, B. (2021). The interaction effect of transactional-transformational leadership on employee commitment in a developing country. *Management Research Review*, 44(3), 399–417. <https://doi.org/10.1108/MRR-03-2020-0153>
- QAA. (n.d.). *Institutional Performance Evaluation - Manual (Guidelines for Evaluation)*. Higher Education Commission, Pakistan.
<https://www.hec.gov.pk/english/services/universities/QAA/Documents/IPESManualforUniversities11standards.pdf>
- QS. (2018). *QS World University Rankings 2018*. QS Quacquarelli Symonds Limited.
<https://www.topuniversities.com/university-rankings/world-university-rankings/2018>
- QS. (2019). *QS World University Rankings 2019*. QS Quacquarelli Symonds Limited.
<https://www.topuniversities.com/university-rankings/world-university-rankings/2019>
- QS. (2020). *QS World University Rankings 2020*. QS Quacquarelli Symonds Limited.
<https://www.topuniversities.com/university-rankings/world-university-rankings/2020>
- QS. (2021). *QS World University Rankings 2021*. QS Quacquarelli Symonds Limited.

- <https://www.topuniversities.com/university-rankings/world-university-rankings/2021>
- QS. (2022). *QS World University Rankings 2022*. QS Quacquarelli Symonds Limited.
<https://www.topuniversities.com/university-rankings/world-university-rankings/2022>
- Raghavan, S., & Ganesh, R. (2015). Addressing service quality to increase students satisfaction and retention in Malaysian private Higher Education Institutions. *American Journal of Economics*, 5(2), 243–250.
<https://doi.org/10.5923/c.economics.201501.31>
- Rahnuma, N. (2020). Evolution of quality culture in an HEI: critical insights from university staff in Bangladesh. *Educational Assessment, Evaluation and Accountability*, 32(1), 53–81. <https://doi.org/10.1007/s11092-019-09313-8>
- Ramli, N., Mohamad, D., & Sulaiman, N. H. (2010). Evaluation of Teaching Performance with Outliers Data using Fuzzy Approach. *Procedia - Social and Behavioral Sciences*, 8, 190–197. <https://doi.org/10.1016/j.sbspro.2010.12.026>
- Raouf, A. (2006). *Self Assessment Manual* (Issue August). Higher Education Commission, Pakistan.
- Rasheed, M. I., Humayon, A. A., Awan, U., & Ahmed, A. D. (2016). Factors affecting teachers' motivation: An HRM challenge for public sector higher educational institutions of Pakistan (HEIs). *International Journal of Educational Management*, 30(1), 101–114. <https://doi.org/10.1108/IJEM-04-2014-0057>
- Razali, N. M., & Wah, B. Y. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21–33.
https://www.researchgate.net/publication/267205556_Power_Comparisons_of_S

- hapiro-Wilk_Kolmogorov-Smirnov_Lilliefors_and_Anderson-Darling_Tests
- Rehmani, K., Naseem, A., & Ahmad, Y. (2020). The Relationship between Quality Culture and Core Practices of Quality Management System and their Direct and Indirect Effects on Organizational Performance. *Global Social Sciences Review*, V(I), 180–189. [https://doi.org/10.31703/gssr.2020\(v-i\).19](https://doi.org/10.31703/gssr.2020(v-i).19)
- Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, 26(4), 332–344. <https://doi.org/10.1016/j.ijresmar.2009.08.001>
- Rhodes, C. (2006). Book Review: The Motivation and Retention of Teachers. *Educational Management Administration & Leadership*, 34(3), 433–434. <https://doi.org/10.1177 / 174114320603400312>
- Riaz, A., & Haider, M. H. (2010). Role of transformational and transactional leadership on job satisfaction and career satisfaction. *Business and Economic Horizons*, 1(1), 29–38. <https://doi.org/10.15208/beh.2010.05>
- Richardson, H. A., Simmering, M. J., & Sturman, M. C. (2009). A Tale of Three Waves: Examining Post Hoc Statistical Techniques for Detection and Correction of Common Method Variance. *Organizational Research Methods*, 12(4), 762–800.
- Richter, N. F., Sinkovics, R. R., Ringle, C. M., & Schlägel, C. (2016). A critical look at the use of SEM in international business research. *International Marketing Review*, 33(3), 376–404. <https://doi.org/10.1108/IMR-04-2014-0148>
- Rifa'i, A. A., Permana, J., Komariah, A., & Sudarsyah, A. (2018). The Influence of Internal Quality Assurance and Quality Culture on Performance of Higher Education Institution. *Advances in Social Science, Education and Humanities*

- Research*, 258, 274–278. <https://doi.org/10.2991/icream-18.2019.56>
- Rita, M., Randa Payangan, O., Rante, Y., Tuhumena, R., & Erari, A. (2018). Moderating effect of organizational citizenship behavior on the effect of organizational commitment, transformational leadership and work motivation on employee performance. *International Journal of Law and Management*, 60(4), 953–964. <https://doi.org/10.1108/IJLMA-03-2017-0026>
- Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation Analysis in Social Psychology: Current Practices and New Recommendations. *Social and Personality Psychology Compass*, 5(6), 359–371. <https://doi.org/10.1111/j.1751-9004.2011.00355.x>
- Ruel, E., Wagner III, W. E., & Gillespie, B. J. (2016). Pretesting and Pilot Testing. In *The Practice of Survey Research: Theory and Applications* (pp. 101–119). SAGE Publications, Inc. <https://doi.org/10.4135/9781483391700>
- Rungtusanatham, M., Miller, J. W., & Boyer, K. K. (2014). Theorizing, testing, and concluding for mediation in SCM research: Tutorial and procedural recommendations. *Journal of Operations Management*, 32(3), 99–113. <https://doi.org/10.1016/j.jom.2014.01.002>
- Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/110003-066X.55.1.68>
- Rybníček, R., Leitner, K. H., Baumgartner, L., & Plakolm, J. (2019). Industry and leadership experiences of the heads of departments and their impact on the performance of public universities. *Management Decision*, 57(12), 3321–3345. <https://doi.org/10.1108/MD-10-2018-1173>
- Saad, G. B. B., & Abbas, M. (2019). The influence of transformational leadership on

- organizational and leadership effectiveness: An empirical case Study of Pakistan. *Amazonia Investiga*, 8(21), 117–129.
- Sahito, Z., & Vaisanen, P. (2018). Perception and Experience of Teacher Educators about Their Motivation: A Case Study Approach. *Journal of Language Teaching and Research*, 9(3), 480. <https://doi.org/10.17507/jltr.0903.05>
- Sahney, S., Banwet, D. K., & Karunes, S. (2004). A SERVQUAL and QFD approach to total quality education: A student perspective. *International Journal of Productivity and Performance Management*, 53(2), 143–166. <https://doi.org/10.1108/17410400410515043>
- Saleh, R. M. M., Nusari, M., Ameen, A., & Alrajawy, I. (2018). Leadership in the organization: A Conceptual Review. *International Journal of Management and Human Science*, 2(4), 52–59.
- Saleh, R. M. M., Nusari, M., Habtoor, N., & Isaac, O. (2018). The Effect of Leadership Style on Organizational Performance: Organizational Commitment as a Mediator Variable in the Manufacturing Sector of Yemen. *International Journal of Management and Human Science*, 2(4), 13–24.
- Sallis, E. (2002). *Total Quality Management in Education* (3rd ed.). Kogan Page Ltd. <https://doi.org/10.4324/9780203417010>
- Sanyal, B. C., & Martin, M. (2007). Quality Assurance and the Role of Accreditation: An Overview. In *Higher Education in the World 2007: Accreditation for Quality Assurance: What is at Stake?* (2nd ed., pp. 3–17). Palgrave Macmillan. <https://upcommons.upc.edu/handle/2099/8095>
- Sarhan, N. M., & Al Shishany, A. (2020). The effect of culture on accommodation service quality perception and expectations. *Management Science Letters*, 10(14), 3357–3366. <https://doi.org/10.5267/j.msl.2020.6.001>

- Sarstedt, M., Hair, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal*, 27(3), 197–211.
<https://doi.org/10.1016/j.ausmj.2019.05.003>
- Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology and Marketing*, 39(5), 1035–1064. <https://doi.org/10.1002/mar.21640>
- Sarstedt, M., Hair, J. F., Ringle, C. M., Thiele, K. O., & Gudergan, S. P. (2016). Estimation issues with PLS and CBSEM: Where the bias lies! *Journal of Business Research*, 69(10), 3998–4010.
<https://doi.org/10.1016/j.jbusres.2016.06.007>
- Sarwar, U., Zamir, S., Fazal, K., Hong, Y., & Yong, Q. Z. (2022). Impact of leadership styles on innovative performance of female leaders in Pakistani Universities. *PLoS ONE*, 17(5 May), 1–16.
<https://doi.org/10.1371/journal.pone.0266956>
- Sattler, C., Sonntag, K., & Götz, K. (2016). The Quality Culture Inventory (QCI): An Instrument Assessing Quality-Related Aspects of Work. In D. Deml, P. Stock, R. Bruder, & C. M. Schlick (Eds.), *Advances in Ergonomic Design of Systems, Products and Processes* (First, pp. 43–56). Springer Vieweg.
https://doi.org/10.1007/978-3-662-48661-0_3
- Schein, E. H. (2009). *The Corporate Culture Survival Guide*. Jossey-Bass.
<https://doi.org/10.1080/10686967.2010.11918296>
- Schein, E. H. (2010). *Organizational Culture and Leadership* (Fourth). Jossey-Bass.
- Schneider, B., & White, S. S. (2004). *Service Quality: Research Perspectives*. Sage

- Publications, Inc. Thousand Oaks, California.
- Schomaker, R. (2015). Accreditation and quality assurance in the Egyptian higher education system. *Quality Assurance in Education*, 23(2), 149–165.
<https://doi.org/10.1108/QAE-08-2013-0034>
- Scriven, M. (1991). Evaluation Thesaurus. In *SAGE Publications* (fourth). SAGE Publications, Inc.
- Seema, R., Udam, M., Mattisen, H., & Lauri, L. (2017). The perceived impact of external evaluation: the system, organisation and individual levels-Estonian case. *Higher Education*, 73(1), 79–95. <https://doi.org/10.1007/s10734-016-0001-4>
- Seidel, T., & Shavelson, R. J. (2007). Teaching effectiveness research in the past decade: The role of theory and research design in disentangling meta-analysis results. *Review of Educational Research*, 77(4), 454–499.
<https://doi.org/10.3102/0034654307310317>
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (Seventh). John Wiley & Sons Ltd.
<https://doi.org/10.1017/CBO9781107415324.004>
- Senanayake, Y. L. K., & Gamage, S. K. (2017). Impact of Intrinsic and Extrinsic Factors on Organizational Performance with Special Reference to Operational Level Managers in Sri Lanka Telecom. *IOSR Journal of Business and Management*, 19(10), 8–19. <https://doi.org/10.9790/487X-1910040819>
- Shabbir, M., Khalid, M. I., Dogar, A. H., Amin, M., Saleem, K., Masood, S., & Tatlah, I. A. (2014). Problems and Issues in Relation to Quality Assurance Practices in Higher Education : Views of Students , Teachers and Heads of Quality Enhancement Cells (QEC's). *International Journal of AYER*, 4, 116–122. <http://www.ayeronline.com>

- Shakil, S. (2019). Higher Education Systems and Institutions, Pakistan. In *Encyclopedia of International Higher Education Systems and Institutions* (pp. 1–8). Springer, Dordrecht. https://doi.org/10.1007/978-94-017-9553-1_578-1
- Shan, M., Hwang, B. g., & Wong, K. S. N. (2017). A preliminary investigation of underground residential buildings: Advantages, disadvantages, and critical risks. *Tunnelling and Underground Space Technology*, 70(January), 19–29. <https://doi.org/10.1016/j.tust.2017.07.004>
- Shank, M. D., Walker, M., & Hayes, T. (1995). Understanding professional service expectations: Do we know what our students expect in a quality education? *Journal of Professional Services Marketing*, 13(1), 71–89. https://doi.org/10.1300/J090v13n01_08
- Shapiro, S. S., & Wilk, M. B. (1965). An Analysis of Variance Test for Normality (Complete Samples). *Biometrika*, 52(3), 591–611. <https://pdfs.semanticscholar.org/1f1d/9a7151d52c2e26d35690dbc7ae8098beee22.pdf>
- Sharma, M. (2018). Developing Quality Culture through Accreditation. *International Journal of Research in Social Sciences*, 8(7 (1)), 264–270.
- Sheppard, V. (2021). *Research Methods for the Social Sciences: An introduction*.
- Shostack, G. L. (1977). Breaking free from product marketing. *Journal of Allergy and Clinical Immunology*, 130(2), 73–80.
- Singh, H. L., Singh, S. K., & Singh, L. P. (2022). A Study on the Effectiveness of Transactional and Transformational Styles of Leadership. *International Journal of Management, Public Policy and Research*, 1(2), 6–11. <https://doi.org/10.55829/010202>
- Skarpeta, K., Koemtzi, M., & Aidonis, D. (2020). Measuring internal service quality:

- the case of the Greek public higher education institutions. *TQM Journal*, 32(2), 268–287. <https://doi.org/10.1108/TQM-02-2019-0061>
- Skelton, A. (2005). *Understanding Teaching Excellence in Higher Education: Towards a critical approach*. Routledge Taylor & Francis Group.
<https://doi.org/10.4324/9780203412947>
- Skopak, A., & Hadzaihmetovic, N. (2022). The Impact of Intrinsic Rewards on Employee Engagement in The Food Industry in Bosnia and Herzegovina. *International Journal of Business and Administrative Studies*, 8(3), 113–126.
<https://doi.org/10.20469/ijbas.8.10001-3>
- Smith, A. M. (1999). Some problems when adopting Churchill's paradigm for the development of service quality measurement scales. *Journal of Business Research*, 46(2), 109–120. [https://doi.org/10.1016/S0148-2963\(98\)00015-0](https://doi.org/10.1016/S0148-2963(98)00015-0)
- Sohail, M. S., & Hasan, M. (2021). Students' perceptions of service quality in Saudi universities: the SERVPERF model. *Learning and Teaching in Higher Education: Gulf Perspectives*, 17(1), 54–66. <https://doi.org/10.1108/LTHE-08-2020-0016>
- Sohail, M. Sadiq, & Shaikh, N. M. (2004). Quest for excellence in business education: A study of student impressions of service quality. *The International Journal of Educational Management*, 18(1), 58–65.
<https://doi.org/10.1108/09513540410512163>
- Steers, R. M., Mowday, R. T., & Shapiro, D. L. (2004). Introduction to Special Topic Forum: The Future of Work Motivation Theory. *The Academy of Management Review*, 29(3), 379. <https://doi.org/10.2307/20159049>
- Steinhardt, I., Schneijderberg, C., Götze, N., Baumann, J., & Krücken, G. (2016). Mapping the quality assurance of teaching and learning in higher education: the

- emergence of a specialty? *Higher Education*, 74(2).
<https://doi.org/10.1007/s10734-016-0045-5>
- Stone, M. (1974). Cross-Validatory Choice and Assessment of Statistical Predictions. *Journal of the Royal Statistical Society: Series B (Methodological)*, 36(2), 111–147. <https://doi.org/10.1111/j.2517-6161.1976.tb01573.x>
- Su, F., Cheng, D., & Wen, S. (2019). Multilevel Impacts of Transformational Leadership on Service Quality: Evidence from China. *Frontiers in Psychology*, 10(MAY), 1–11. <https://doi.org/10.3389/fpsyg.2019.01252>
- Suarez, E. G., & Toro, R. M. (2018). Teaching Performance Evaluation Model: Preparation for Student Learning within the Framework for Teacher Good Performance. *Journal of Educational Psychology - Propositos y Representaciones*, 6(2), 431–452.
- Sultan, P., & Wong, H. Y. (2010). Service quality in higher education – a review and research agenda. *International Journal of Quality and Service Sciences*, 2(2), 259–272. <https://doi.org/10.1108/17566691011057393>
- Sultana, U. S., Darun, M. R., & Yao, L. (2015). Transactional or Transformational Leadership: Which works best for now? *International Journal of Industrial Management (IJIM)*, XX(June), 1–8.
- Svensson, G. (2004). A customized construct of sequential service quality in service encounter chains: time, context, and performance threshold. *Managing Service Quality: An International Journal*, 14(6), 468–475.
<https://doi.org/10.1108/09604520410569801>
- Svensson, G. (2006). New aspects of research into service encounters and service quality. *International Journal of Service Industry Management*, 17(3), 245–257.
<https://doi.org/10.1108/09564230610667096>

- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (Fifth). Pearson Education, Inc. <https://doi.org/10.1515/snde-2014-0102>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics*. (Sixth (ed.)). Pearson Education, Inc. <https://doi.org/10.1037/022267>
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using Multivariate Statistics* (Seventh). Pearson Education, Inc.
- Tahir, N. (2022, March 11). Professing quality, practising none. *Available Online*, 1–4. <https://www.dawn.com/news/1679399>
- Tam, J. L. M., & Wong, Y. H. (2001). Interactive selling: A dynamic framework for services. *Journal of Services Marketing*, 15(5), 379–396. <https://doi.org/10.1108/EUM0000000005656>
- Tan, K. C., & Kek, S. W. (2004). Service quality in higher education using an enhanced SERVQUAL approach. *Quality in Higher Education*, 10(1), 17–24. <https://doi.org/10.1080/1353832242000195032>
- Tavares, O., & Cardoso, S. (2013). Enrolment choices in Portuguese higher education: Do students behave as rational consumers? *Higher Education*, 66(3), 297–309. <https://doi.org/10.1007/s10734-012-9605-5>
- Teo, T. S. H., Srivastava, S. C., & Jiang, L. (2008). Trust and Electronic Government Success: An Empirical Study. *Journal of Management Information Systems*, 25(3), 99–131. <https://doi.org/10.2753/MIS0742-1222250303>
- Terra, J. D. R., & Berssaneti, F. T. (2017). Hospital Accreditation and Its Impacts on Quality Culture. *International Joint Conference -, July*, 325–332. https://doi.org/10.1007/978-3-319-93488-4_36
- Thapa, A., & Parimoo, D. (2022). Transactional Leadership Style and Organizational Performance: The moderating role of emotional intelligence. *Parikalpana: KIIT*

- Journal of Management*, 18(1), 53–70. <https://doi.org/10.23862/kiit-parikalpana/2022/v18/i1/212345>
- Throm, M. E. (2018). *Research before Teaching and Service? Performances, Perceptions, and Experiences of Faculty at Teaching-Intensive Institutions* [Wayne State University Dissertations. 1971.].
https://digitalcommons.wayne.edu/oa_dissertations/1971
- Torlak, N. G., & Kuzey, C. (2019). Leadership, job satisfaction and performance links in private education institutes of Pakistan. *International Journal of Productivity and Performance Management*, 68(2), 276–295. <https://doi.org/10.1108/IJPPM-05-2018-0182>
- Trewin, D. (2002). The Importance of a Quality Culture. *Statistics Canada*, 28(2), 125–133.
- Trivellas, P., & Dargenidou, D. (2009). Leadership and service quality in higher education The case of the Technological Educational Institute of Larissa. *International Journal of Quality and Service Sciences*, 1(3), 294–310.
<https://doi.org/10.1108/17566690911004221>
- Trochim, W. M. K. (2006). *Research Methods: Knowledge Base* (S. A. Lopa (ed.)).
- Tsioumis, K., Vamvakidou, I., Golia, P., & George, S. (2006). Meaning of the Terms Culture and Civilization in the Greek Newspapers “Macedonia” and “Thessaloniki”: A Social Semiotic Approach Konstantinos. *International Journal of the Humanities*, 4(January), 9.
- Tucker, T. G. (1931). *A Concise Etymological Dictionary of Latin*. Ares Publishers.
<https://doi.org/10.1017/s0009840x00058856>
- Turner, A. (2017). How does intrinsic and extrinsic motivation drive performance culture in organizations? *Cogent Education*, 4(1), 1–6.

<https://doi.org/10.1080/2331186X.2017.1337543>

- Tutko, M. (2019). Quality Culture Research in Higher Education-Literature Review. *Scientific Papers of Silesian University of Technology. Organization and Management Series*, 2019(136), 619–629. <https://doi.org/10.29119/1641-3466.2019.136.48>
- Ülker, N. (2023). Maintaining quality of higher education during difficult times: Accreditation compliance in foreign language education. *Cogent Education*, 10(1), 1–21. <https://doi.org/10.1080/2331186X.2023.2167320>
- Ulker, N., & Bakioglu, A. (2018). An international research on the influence of accreditation on academic quality. *Studies in Higher Education*, 44(9), 1507–1518. <https://doi.org/10.1080/03075079.2018.1445986>
- Ullah, A., Akhtar, N., & Malik, M. T. (2016). Relationship Between Quality Culture and Organizational Performance With Mediating Effect of Competitive Advantage. *Al-Idah*, 32(1 (Jun. 2019)), 76–86. <http://www.al-idah.pk/index.php/al-idah/article/view/157>
- Ulum, Ö. G. (2017). Organizational Culture in Educational Institutions. *International Journal of Social Science*, 54, 39–56.
- Usman, S. (2014). Governance and Higher Education in Pakistan: What Roles do Boards of Governors Play in Ensuring the Academic Quality Maintenance in Public Universities versus Private Universities in Pakistan? *International Journal of Higher Education*, 3(2). <https://doi.org/10.5430/ijhe.v3n2p38>
- Usmani, M. A. W., & Khatoon, S. (2016). Impact of quality assurance initiative on Pakistani universities. *International Journal of Research Studies in Education*, 5(4), 83–90. <https://doi.org/10.5861/ijrse.2015.1326>
- Usmani, M. A. W., & Khatoon, S. (2018). Impact of programme evaluation through

- self-assessment in higher education institutions in Pakistan. *Contemporary Educational Researches Journal*, 8(4), 134–141.
- <https://doi.org/10.18844/cerj.v8i3.3638>
- Valdes, P. (2020). *Faculty Service Work: Perceptions, Influences and Performance*. The University of Iowa.
- van Kemenade, E. (2023). The Continuity in the Concept: A Concept Analysis of Quality Culture in Complex Adaptive Systems. *Vietnam Journal of Education*, 7(2), 157–170. <https://doi.org/10.52296/vje.2023.285>
- Veliu, L., Manxhari, M., Demiri, V., & Jahaj, L. (2017). The Influence of Leadership Styles on Employee's Performance. *Journal of Management*, 31(2), 59–69.
- Verschueren, N., Dessel, J. V., Verslyppe, A., Schoensetters, Y., & Baelmans, M. (2023). A Maturity Matrix Model to Strengthen the Quality Cultures in Higher Education. *Education Sciences*, 13(2 (123)), 1–27.
- <https://doi.org/10.3390/educsci13020123>
- Vlăsceanu, L., Grünberg, L., & Pârlea, D. (2007). *Quality Assurance and Accreditation : A Glossary of Basic Terms and Definitions* (M. Seto & P. J. Wells (eds.); Second). UNESCO-CEPES 2007.
- <https://unesdoc.unesco.org/ark:/48223/pf0000134621>
- Vroom, V. H., & Jago, A. G. (2007). The Role of the Situation in Leadership. *American Psychologist*, 62(1), 17–24. <https://doi.org/10.1037/0003-066X.62.1.17>
- Wahab, S., Rahmat, A., Yusof, M. S., & Mohamed, B. (2016). Organization Performance and Leadership Style: Issues in Education Service. *Procedia - Social and Behavioral Sciences*, 224(August 2015), 593–598.
- <https://doi.org/10.1016/j.sbspro.2016.05.447>

- Ward, K. (2003). *Faculty Service Roles and the Scholarship of Engagement*. Jossey-Bass.
- Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1), 35–57. <https://doi.org/10.2307/25148667>
- Weller, P., & Stevens, B. (2015). When the counting is over, can governments govern? *Social Alternatives*, 34(3), 52–59.
https://research.usc.edu.au/discovery/delivery?vid=61USC_INST:ResearchRepository&repId=12126156860002621#13130011840002621
- Wernerfelt, B. (1984). A Resource-based View of the Firm. *Strategic Management Journal*, 5(2), 171–180. <http://www.jstor.org/stable/2486175>
- Wetzels, M., Odekerken-Schröder, G., & Oppen, C. v. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly: Management Information Systems*, 33(1), 177–195. <https://doi.org/10.2307/20650284>
- Wijaya, A. F., Prastyari, C. A., & Armanu. (2019). The Influence of Leadership Style on Service Quality in Higher Education: A Study at a Social Science Faculty. *Journal of Applied Management*, 17(3), 426–433.
<https://doi.org/10.21776/ub.jam.2019.017.03.06>
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13), 1307–1314.
<https://doi.org/10.1002/smj.360>
- Williams, M., & Burden, R. L. (2007). *Psychology for Language Teachers: a Social Constructivist Approach* (12th ed.). Cambridge University Press.

<https://doi.org/10.2307/3588203>

Williams, R., Rassenfosse, G. d., Jensen, P., & Marginson, S. (2013). The determinants of quality national higher education systems. *Journal of Higher Education Policy and Management*, 35(6), 599–611.

<https://doi.org/10.1080/1360080X.2013.854288>

Wright, C., & O'Neill, M. (2002). Service quality evaluation in the higher education sector: An empirical investigation of students' perceptions. *Higher Education Research and Development*, 21(1), 23–39.

<https://doi.org/10.1080/07294360220124639>

Wu, S. J. (2015). The impact of quality culture on quality management practices and performance in Chinese manufacturing firms. *International Journal of Quality & Reliability Management*, 32(8), 799–814. <https://doi.org/DOI 10.1108/IJQRM-12-2013-0199>

Wu, S. J., Zhang, D., & Schroeder, R. G. (2011). Customization of Quality Practices: The Impact of Quality Culture. *International Journal of Quality and Reliability Management*, 28(3), 263–279. <https://doi.org/10.1108/02656711111109883>

Xie, D. (2005). *Exploring organizational learning culture, job satisfaction, motivation to learn, organizational commitment, and internal service quality in a sport organization* [The Ohio State University]. <http://journal.um-surabaya.ac.id/index.php/JKM/article/view/2203>

Xuan, Y., & Yunchen, W. (2015). The Impact of Commercial Banks' Internal Service Quality on the Front-Line Employees' Service Performance: Based on the Perspective of Internal Marketing. *2015 International Conference on Service Science, ICSS*, 70–74. <https://doi.org/10.1109/ICSS.2015.47>

Yaakub, M. H., & Mohamed, Z. A. (2020). Measuring the performance of private

- higher education institutions in Malaysia. *Journal of Applied Research in Higher Education*, 12(3), 425–443. <https://doi.org/10.1108/JARHE-10-2018-0208>
- Yilmaz, H. H., & Kesik, A. (2010). Administrative Structure and Financial Issues in Higher Education: A Proposed Model for Improving Managerial Effectiveness in Higher Education in Turkey. *Journal of Finance*, 158, 124–163.
https://ms.hmb.gov.tr/uploads/2019/09/07.H.Hakan_.YILMAZ_Ahmet.KESIK_.pdf
- Yilmaz, K., & Temizkan, V. (2022). The Effects of Educational Service Quality and Socio-Cultural Adaptation Difficulties on International Students' Higher Education Satisfaction. *SAGE Open*, 12(1), 1–18.
<https://doi.org/10.1177/21582440221078316>
- Yu, Y., & Choi, Y. (2014). Corporate social responsibility and firm performance through the mediating effect of organizational trust in Chinese firms. *Chinese Management Studies*, 8(4), 577–592. <https://doi.org/10.1108/CMS-10-2013-0196>
- Yukl, G. (2013). *Leadership in Organizations* (Eighth). Pearson Education Limited.
- Yunker, P. J., & Yunker, J. A. (2003). Are Student Evaluations of Teaching Valid? Evidence From an Analytical Business Core Course. *Journal of Education for Business*, 78(6), 313–317. <https://doi.org/10.1080/08832320309598619>
- Yusof, A. A., & Ali, J. (2000). Managing culture in organization. *Malaysian Management Journal*, 35(2), 60–65.
- Zaccone, M. C., & Pedrini, M. (2019). The effects of intrinsic and extrinsic motivation on students learning effectiveness. Exploring the moderating role of gender. *International Journal of Educational Management*, 33(6), 1381–1394.
<https://doi.org/10.1108/IJEM-03-2019-0099>
- Zaied, R. M. Ben, Louati, H., & Affes, H. (2015). The Relationship Between

- Organizational Innovations, Internal Sources of Knowledge and Organizational Performance. *International Journal of Managing Value and Supply Chains*, 6(1), 53–67. <https://doi.org/10.5121/ijmvsc.2015.6105>
- Zamanan, M. S., Alkhaldi, M. H., Almajroub, A. S., Alajmi, A. D. S., Alshammari, J. M., & Aburumman, O. J. (2020). The influence of HRM practices and employees' satisfaction on intention to leave. *Management Science Letters*, 10(8), 1887–1894. <https://doi.org/10.5267/j.msl.2019.12.030>
- Zapp, M., & Ramirez, F. O. (2019). Beyond internationalisation and isomorphism—the construction of a global higher education regime. *Comparative Education*, 55(4), 473–493. <https://doi.org/10.1080/03050068.2019.1638103>
- Zeithaml, V., Bitner, M. J., & Gremler, D. D. (2018). *Services Marketing: Integrating Customer Focus Across the Firm* (Seventh, Vol. 51, Issue 3). McGraw-Hill Education, 2 Penn Plaza, New York.
<https://doi.org/10.1016/j.bushor.2008.01.008>
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *Journal of Consumer Research*, 37(2), 197–206. <https://doi.org/10.1086/651257>
- Zhou, L. (2004). A dimension-specific analysis of performance-only measurement of service quality and satisfaction in China's retail banking. *Journal of Services Marketing*, 18(7), 534–546. <https://doi.org/10.1108/08876040410561866>

Appendices

Appendix A

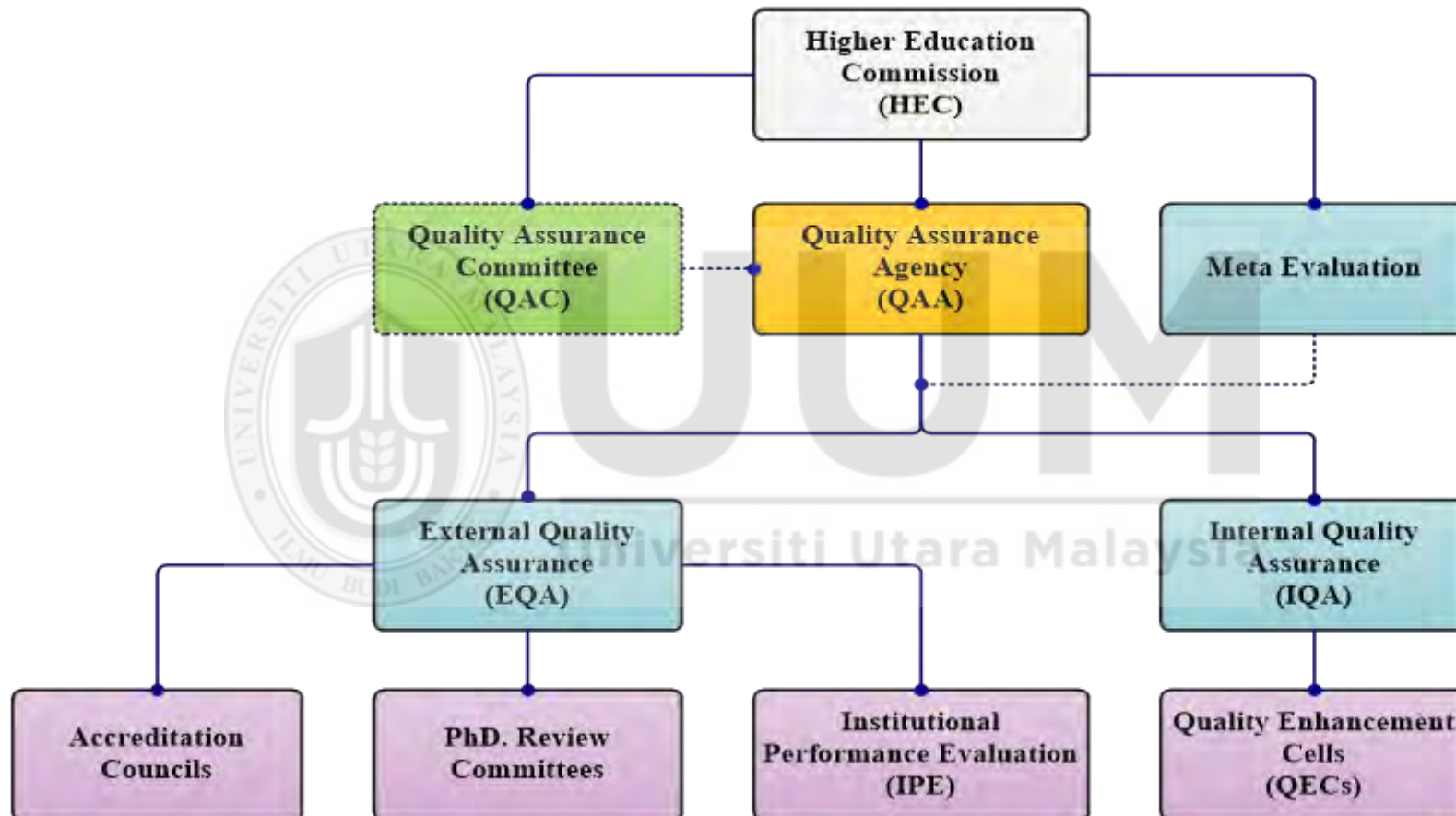
Pakistani Universities Standing in Top 1000 QS World Ranking (Year 2018 – 2022)

University Name	Past 05 Years – QS Ranking					Current Status
	2018	2019	2020	2021	2022	
National University of Science and Technology (NUST), Islamabad	431 – 440	417 ↑	400 ↑	355 ↑	358 ↓	Slightly moved down in the latest QS Ranking-2022.
Pakistan Institute of Engineering and Sciences (PIEAS), Islamabad	–	397	375 ↑	373 ↑	398 ↓	Moved down 25 positions in the latest QS Ranking-2022.
Quaid-i-Azam University, Islamabad	651 – 700	551 – 560 ↑	511-520 ↑	454 ↑	378 ↑	Improved previous position considerably in the latest QS Ranking-2022.
Lahore University of Management Sciences (LUMS), Lahore	701 – 750	701 – 750	701-750	651-700 ↑	651-700	No improvement since QS Ranking-2021.
COMSATS, Islamabad	–	751 – 800	801 – 1000↓	801 – 1000	1001 – 1200↓	Further moved down in the latest QS Ranking-2022.
University of Engineering and Technology (UET), Lahore	801 – 1000	801 – 1000	801 – 1000	801 – 1000	801 – 1000	No improvement since QS Ranking-2018.
University of Punjab, Lahore	–	801 – 1000	801 – 1000	801 – 1000	801 – 1000	No improvement since QS Ranking-2019.
University of Karachi, Karachi	801 – 1000	–	–	–	–	Not able to get in the top 1000 universities' list since QS Ranking-2018.
The University of Lahore, Lahore	801 – 1000	–	–	–	–	Not able to get in the top 1000 universities' list since QS Ranking-2018.
Total	06	07	07	07	06	Overall, only 06 universities able to get spot in top 1000 universities in QS Ranking-2022.

Source: QS World University Ranking (QS, 2021; QS, 2020; QS, 2019; QS, 2018; QS, 2017)

Appendix B

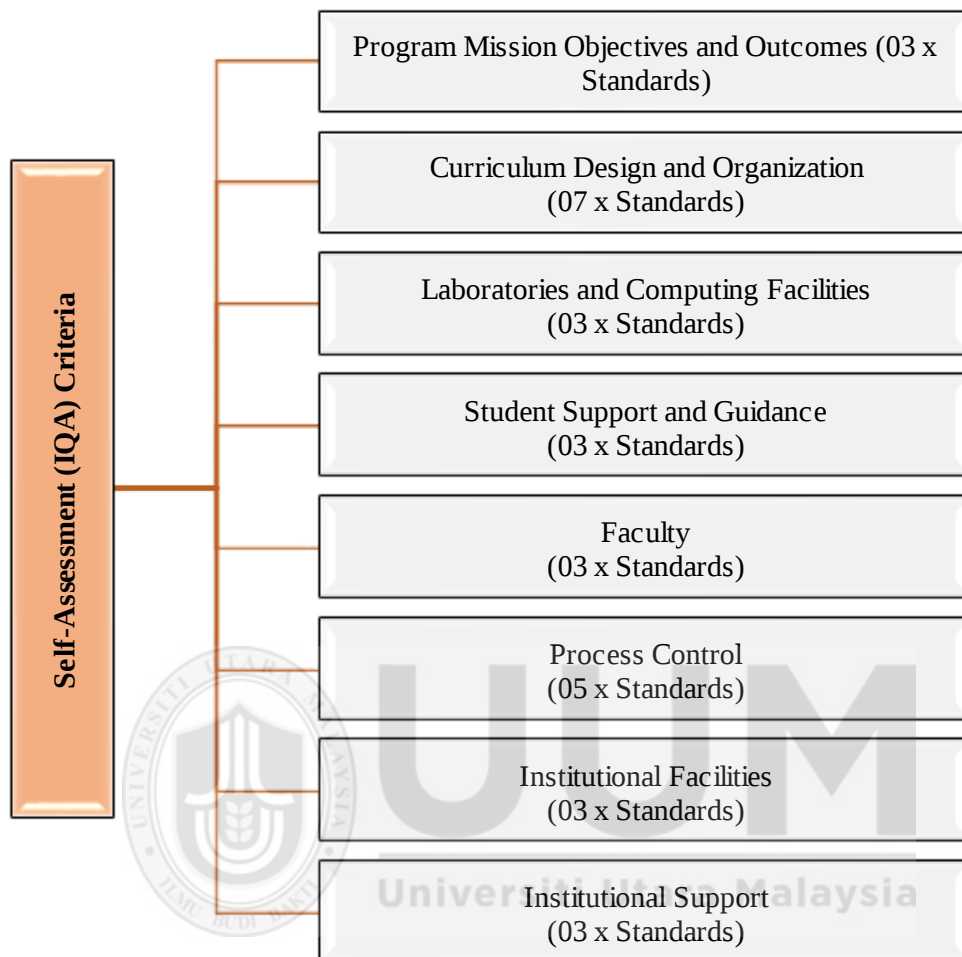
Quality Assurance Framework in Higher Education in Pakistan



Source: Batool & Qureshi (2007)

Appendix C

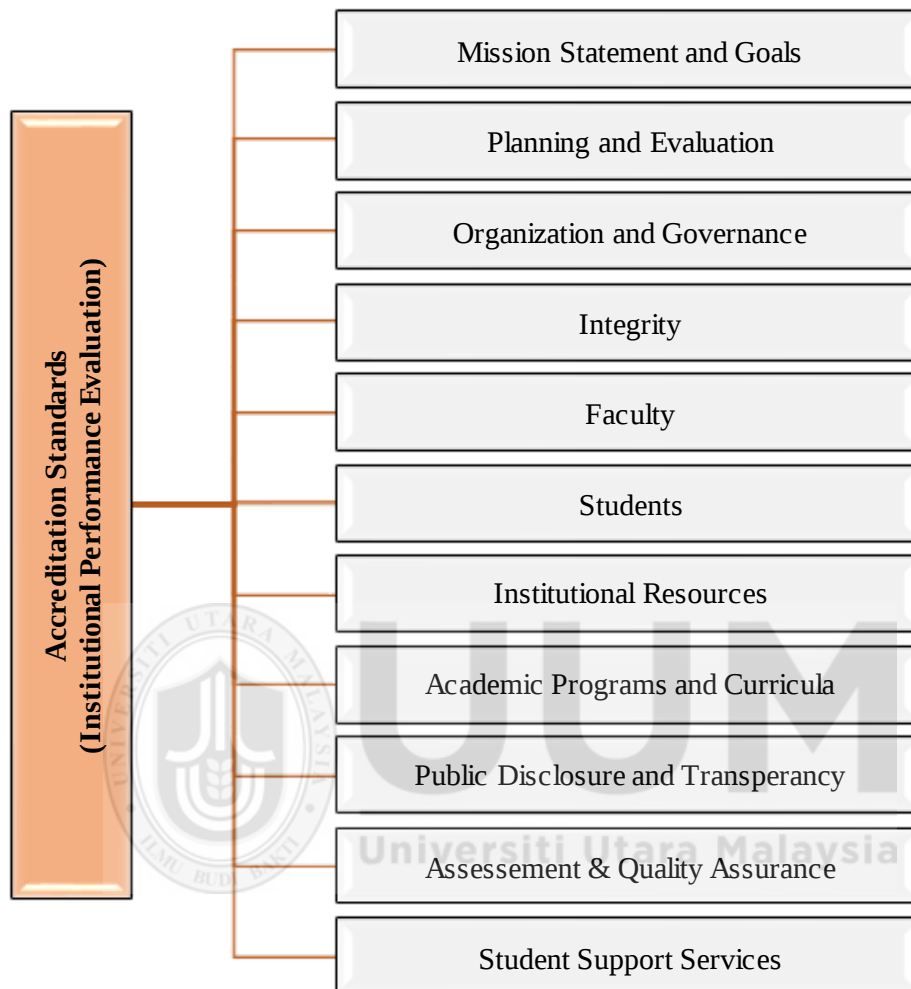
Self-Assessment Criteria (IQA) for Academic Programs in Pakistan



Source: Raouf (2006)

Appendix D

Accreditation Standards (Institutional Performance Evaluation) in Pakistan



Source: (QAA, n.d.)

Appendix E

Letter of Recommendation for Data Collection and Research Work



UNIT PENGAJIAN SISWAZAH
POSTGRADUATE STUDIES UNIT (PSU)
UUM COB
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA



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Laman web (Web): <http://psucob.uum.edu.my/>

UUM/COB/P-40

21 December 2022

ADMINISTRATIVE MANAGERS

Public and Private Universities in Pakistan

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **SHAHZAF IQBAL (Matric No. 904291)** is a student at UUM College of Business, Universiti Utara Malaysia, pursuing a Doctor of Philosophy (Technology, Operation and Logistics Management). He is conducting research entitled **"Examining the Effects of Leadership Styles, Quality Infrastructure, and Motivation on Higher Education Performance through Quality Culture"** under the supervision of Assoc. Prof. Dr. Che Azlan bin Taib and Assoc. Prof. Ts. Dr. Mohd Rizal bin Razalli.

In this regard, we hope that you could kindly provide him with assistance and cooperation to enable him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance are very much appreciated.

Thank you.

"KEDAH SEJAHTERA - NIKMAT UNTUK SEMUA"
"ILMU BUDI BAKTI"

Upholding the principles of trust and integrity

NURUL NADIAH RUSLE

Assistant Registrar
for Director
Postgraduate Studies Unit
UUM College of Business

c.c. - Supervisors
- Student's File (904291)

Universiti Pengurusan Terkemuka
The Eminent Management University



Appendix F

Research Questionnaire

Universiti Utara Malaysia
College of Business (COB)
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Malaysia

Tel: + 92 – 321– 6244484

E-mail: shahzafiqbal@yahoo.com
shahzaf_iqbal@oyagsb.uum.edu.my



The Effects of Leadership Styles, Accreditations, and Motivation on Higher Education Performance: The Mediating Role of Quality Culture

Introduction

Dear Respondent,

I am a Ph.D. student at the College of Business of Universiti Utara Malaysia (UUM). The purpose of this study is to examine the effects of leadership styles, accreditation, and motivation on the higher education performance in Pakistani universities, with quality culture as a mediator. You are invited to participate in this research as part of the university's senior leadership, however, please note that your participation in this survey is completely voluntary.

This survey involves completing an online questionnaire that will take approximately less than 10 minutes. Since no identifying information such as your name, university, faculty, or department will be disclosed at any stage of this research, your responses are expected to be realistic and free from bias, which is vital to the success of this study.

Thank you for your valuable time.

Sincerely

PhD. Student : Shahzaf Iqbal, STML, Universiti Utara Malaysia (UUM)
Supervisors : (1) Dr. Che Azlan Bin Taib (UUM)
(2) Dr. Mohd. Rizal bin Razalli (UUM)

Part (A): Respondent Background

Please Tick (✓) as appropriate as follow:

1- **University Name:**

2- **Province/ Adm. Unit:** ☐ AJK ☐ Balochistan ☐ GB
☐ Islamabad ☐ KPK ☐ Punjab
☐ Sindh

3- **University Sector:** ☐ Public ☐ Private

4- **Faculty/ Department:**

5- **Respondent Name:** (Not Compulsory)

6- **Respondent Gender:** ☐ Male ☐ Female

7- **Respondent Age:** ☐ ≤ 30 ☐ 31- 40 ☐ 41-50
☐ 51- 60 ☐ ≥ 61

8- **Qualification:** ☐ BS (4-Yrs) ☐ MS/M. Phil ☐ Ph.D.
☐ Others (please specify)

9- **Designation:** (please specify)

Part (B): Leadership Styles

Instructions: These items are measured on a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). Please select the response that most closely matches your agreement with the following statements.

Part (B – 1): Transformational Leadership Style

No.	Items	SD	D	N	A	SA
1	Our university leader communicates a clear and positive vision of the future.	1	2	3	4	5
2	Our university leader treats staff as individuals, supports and encourages their development.	1	2	3	4	5
3	Our university leader gives encouragement and recognition to staff.	1	2	3	4	5
4	Our university leader fosters trust, involvement, and cooperation among team members.	1	2	3	4	5
5	Our university leader encourages thinking about problems in new ways and questions assumptions.	1	2	3	4	5
6	Our university leader is clear about his/her values and practices what he/she preaches.	1	2	3	4	5
7	Our university leader instills pride and respect in others and inspires them by being highly competent.	1	2	3	4	5

Part (B – 2): Transactional Leadership Style

No.	Items	SD	D	N	A	SA
1	Our university leader always gives staff members positive feedback when they perform well.	1	2	3	4	5
2	Our university leader gives staff members special recognition when they produce at a high level.	1	2	3	4	5
3	Our university leader commends staff members when they exceed their productivity goals.	1	2	3	4	5
4	Our university leader frequently acknowledges staff members good performance.	1	2	3	4	5
5	Our university leader indicates his/her disapproval if staff members perform at a low level.	1	2	3	4	5
6	Our university leader lets staff members know about it when they perform poorly.	1	2	3	4	5
7	Our university leader criticizes staff members if their work is below standard.	1	2	3	4	5
8	Our university leader points it out to staff members when their productivity is below average.	1	2	3	4	5

Part (C): Accreditation

No.	Items	SD	D	N	A	SA
1	Accreditation provides a good opportunity to our university to share experiences with experts and to get useful feedback from them.	1	2	3	4	5
2	Accreditation encourages restructuring and/or other developmental activities at our university.	1	2	3	4	5
3	Accreditation strengthens teamwork within our university.	1	2	3	4	5
4	Accreditation helps to raise awareness of the weaknesses in the system and to find solutions at our university.	1	2	3	4	5
5	Accreditation enhances the reliability of our university.	1	2	3	4	5

Part (D): Motivation**Part (D – 1): Intrinsic Motivation**

No.	Items	SD	D	N	A	SA
1	The faculty members in our university are happy with assigned responsibilities (e.g., autonomy, authority, and responsibility for own work).	1	2	3	4	5
2	The faculty members in our university enjoy sense of achievement (e.g., experiencing success).	1	2	3	4	5
3	The faculty members in our university appreciate the potential for their professional growth (e.g., possibility of improving one's own professional skills)	1	2	3	4	5
4	The faculty members in our university gain due recognition from stakeholders (e.g., receiving praise from administrators, parents, students, or others)	1	2	3	4	5
5	The faculty members in our university are satisfied with the potential for advancement (e.g., possibility of assuming different positions in the profession).	1	2	3	4	5
6	The activities of faculty members in our university let them improve as a person, enhance their self-confidence, maturity, and self-accomplishment.	1	2	3	4	5
7	Our university faculty members have autonomy in their job, and they can contribute with their ideas.	1	2	3	4	5
8	Our faculty members consider this university honest and coherent with its mission	1	2	3	4	5
9	Our faculty members have a sense of belonging to their university.	1	2	3	4	5

Part (D – 2): Extrinsic Motivation

No.	Items	SD	D	N	A	SA
1	The faculty members in our university receive a lucrative salary (e.g., financial compensation).	1	2	3	4	5
2	The faculty members in our university have job security and stability (e.g., tenure).	1	2	3	4	5
3	The faculty members in our university have favorable working conditions (e.g., building conditions, amount of work, facilities available).	1	2	3	4	5
4	The faculty members in our university have good interpersonal relationships with students (e.g., interaction with students).	1	2	3	4	5
5	The faculty members in our university are satisfied with the status granted (e.g., professional status of teaching).	1	2	3	4	5
6	Our university faculty members receive a fixed salary (base salary, complements, etc.) for their activities in the university.	1	2	3	4	5
7	Our university clearly recognizes the job of faculty members (through rewards, mentions in the university's magazine, intranet, advertisement board, etc.).	1	2	3	4	5
8	Our university offers faculty members the possibility of promotion.	1	2	3	4	5
9	Our university offers faculty members stability and continuity in their job.	1	2	3	4	5

Part (E): Quality Culture

No.	Items	SD	D	N	A	SA
1	Our university is proactive in anticipating students' needs.	1	2	3	4	5
2	Our university believes that student satisfaction is critical for university's survival.	1	2	3	4	5
3	Our university believes that continuous improvement is critical for university's survival and growth.	1	2	3	4	5
4	Our university uses cross-functional teams to find better solutions.	1	2	3	4	5

Part (F): Higher Education Performance**Part (F – 1): Teaching Performance**

No.	Items	SD	D	N	A	SA
1	The faculty members of our university communicate clearly about practical matters and course organization.	1	2	3	4	5
2	The faculty members of our university make it clear what knowledge and skills students acquire to pass their courses.	1	2	3	4	5
3	The faculty members of our university use a variety of teaching methods to help students learn.	1	2	3	4	5
4	The study material (slides, notes, books, etc.) helps students to understand the course material.	1	2	3	4	5
5	The feedback and assignments from the faculty members help students to do better.	1	2	3	4	5

Part (F – 2): Research Performance

No.	Items	SD	D	N	A	SA
1	Over the past three years, our university has increased its ability to obtain research grants.	1	2	3	4	5
2	Over the past three years, our university has increased its ability to complete research on time as planned	1	2	3	4	5
3	Over the past three years, our university has increased its ability to produce research that meet objectives respectively	1	2	3	4	5
4	Over the past three years, our university has increased its ability to involve students in research works	1	2	3	4	5
5	Over the past three years, our university has increased its ability to produce impactful research that attracts citations	1	2	3	4	5

Part (F – 3): Service Performance

No.	Items	SD	D	N	A	SA
1	The faculty members of our university are involved in designing new academic programs.	1	2	3	4	5
2	The faculty members of our university participate in curriculum development.	1	2	3	4	5
3	The faculty members of our university participate in academic committees (e.g., departmental, advisory, budget, hiring and recruitment).	1	2	3	4	5
4	Our university staff responds immediately to colleagues' urgent requests.	1	2	3	4	5
5	Our university staff voluntarily assists staff members from other departments.	1	2	3	4	5
6	Our university staff assists new staff members in work-related tasks and operations.	1	2	3	4	5
7	Our university staff resolves conflicts among staff members.	1	2	3	4	5
8	Our university staff assists colleagues when they encounter job difficulties.	1	2	3	4	5
9	The faculty members of our university are engaged in students counselling.	1	2	3	4	5
10	The faculty members of our university are engaged in community service (e.g., providing field/discipline-related consulting service to third parties).	1	2	3	4	5
11	Our university staff willingly listens to students' request.	1	2	3	4	5
12	Our university staff responds to students' requests that go beyond what was promised.	1	2	3	4	5
13	Our university staff provides standardized (uniform) service to students.	1	2	3	4	5
14	Our university staff provides unique services compared to other universities.	1	2	3	4	5
15	Our university staff stays late to provide service.	1	2	3	4	5

Thanks for your patience in filling out the questionnaire.