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Mission Statement

Sukkur IBA Journal of Management and Business is peer-refereed and multidisciplinary journal. The mission of **SIJMB** is to contribute and promote research in the field of business and management sciences. The journal encourages findings of innovative and solution oriented applied research.

Aims & Objectives

Sukkur IBA Journal of Management and Business aims to publish cutting edge research in the field of business, economics and management sciences. It accepts original research articles, case studies, reviews, and short comments on diverse issues, problems, unique concepts, hypotheses, and solution-oriented findings in interdisciplinary studies of economics and management sciences.

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Patron's Message

Sukkur IBA University has been imparting education with its core values merit, quality, and excellence since foundation. **Sukkur IBA** has achieved numerous milestones in a very short span of time that hardly any other university has achieved in the history of Pakistan. Sukkur IBA Business School has been continuously ranked as best business school in Pakistan by Higher Education Commission (HEC). The distinct service of **Sukkur IBA** is to serve the rural areas of Sindh and also underprivileged areas of other provinces of Pakistan. **Sukkur IBA** is committed to serve targeted youth of Pakistan who are suffering from poverty and deprived of equal opportunity to seek quality education. **Sukkur IBA** is successfully undertaking its mission and objectives that lead Pakistan towards socio-economic prosperity.

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Sukkur IBA is mission driven university and committed to serve towards the socioeconomic development of Pakistan through education and research.

Prof. Dr Asif Ahmed Shaikh

Vice Chancellor, Sukkur IBA University

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Editorial

Dear Readers,

Once again, it's a pleasure to bring you the latest issue of **Sukkur IBA Journal of Management and Business - SIJMB**. Following our editorial policy, this issue contains double blind peer-reviewed articles which address the key business, management and economic issues pertaining to both national and international levels. The continued efforts of our editorial team and reviewers have enabled **SIJMB** to present you the high-quality research work based on the innovation, originality and contemporary issues in the core areas but, not limited to business, management and economics. **SIJMB** follows continuous improvement policy, and I thank all the stakeholders who have been the part of it. Moreover, **SIJMB** has continued its open access policy in order to reach larger audience and wider dissemination of published work.

While not forgetting that the **SIJMB** has an institutional association with **Sukkur IBA University**. In fact, the initiation of **SIJMB** is an outcome of strong research orientation followed by the Sukkur IBA and I am grateful for continuous institutional support in this regard. In addition, the **SIJMB** provides valuable platform for national and international researchers and publishes their research findings and disseminates those to the largest audience. The journal does not charge any fees and provides complimentary copy (in hard form) to each author. In addition, the supplement copies of the journal are also distributed to HEI and R&D institutions of the country. The journal has been archived by world's renowned scientific repositories. Journal has received recognition from several research agencies, universities and renowned professors. With pleasure, it is also to share with you all that the **SIJMB** has recognized by the **Higher Education Commission (HEC)**. In coming years, the journal aims to improve its current state by attracting more national and international researchers in the field of business, management and economics.

On behalf of the **SIJMB**, I welcome submissions for the upcoming issues of the journal and looking forward to receiving your valuable feedback.

Dr.Faheem Gul Gilal

Editor-in-Chief

SIJMB

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The effect of talent management on competency development of public-sector universities: The buffering role of organizational culture

Sher Zaman Khan¹, Mahad Jehangir², Muhammad Haseeb Qureshi³

Abstract

In the contemporary era, scholars are engaged in extensive debate regarding the influence of talent management on the quality of education and research in universities. Modern institutions face significant pressure to adapt, remain competitive, and address the scarcity of talent management, particularly in non-western countries such as Pakistan. As a result, the concept of talent management has gained prominence. This research aims to assess the impact of talent management on competency development in public sector universities of Khyber Pakhtunkhwa (KP) province, Pakistan. To this end, 475 questionnaires were distributed, of which 378 were deemed usable, resulting in a response rate of 79.57%. Correlation, regression, and multiple regression analyses (with a moderation effect) were conducted to test the hypotheses. The results demonstrate a positive relationship among the variables. Regression analysis confirms that talent management significantly influences employee competency development. Furthermore, the results of multiple hierarchical regression indicate a positive and significant impact of talent management on competency development. However, the moderating impact of organizational culture on the relationship between competency development and talent management was found to be insignificant. These findings hold implications for researchers and academics in terms of aligning talent management strategies with organizational strategic goals and establishing employee engagement standards to address the challenges of implementing talent management techniques in public universities of KP.

Keywords: *Talent management, Organizational culture, Competency development.*

JEL Code: M54, J19

1. Introduction

In this age of knowledge economy, talent management (TM) is one of the talking points and basic tools to invest in developing human capital rather than the acquisition of massive tangible assets like land, buildings, plants, etc. (Khan, et al., 2019; Dhanalakshmi and Gurunathan, 2014; Taamneh et al., 2021).

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Universities, in particular, and business firms, in general, have been forced to compete with one another for highly skilled workers around the world as a direct result of globalization and the opening of new markets. A prominent 'McKinsey consulting firm declared talent management as a 'war of talents, at the start of the year 2000 (Chambers et al., 1998; Hartmann et al., 2010; Omotunde and Alegbeleye, 2021). After that, TM became a primary solution for handling many of the critical challenges that are currently faced by businesses and has gained massive attention from scholars around the globe (Yeung and Berman, 1997; Chen et al., 2019; Abeuova and Muratbekova-Touron, 2019; Abdullahi et al., 2022). Universities and other higher education institutions are important from a strategic perspective (Gilal et al., 2019a; 2019b; Gilal et al., 2020), and there is evidence that research-based education pays off in areas close to the technological frontier of the world's (Aghion et al., 2010; Kwon and Jang, 2022). Khattak (2012) argued that nations and governments prioritize education in their public policies which leads to economic growth of the nations. Most importantly, they generate highly skilled personnel through higher education. As it becomes one of the organization's key competencies. Talent management serves as a strategic differentiator for the organization in comparison to its counterparts (Ashton and Morton, 2005). For instance, an organization can undertake much more effective, innovative, and profitable initiatives, if it has the right people in key roles at the right time. In spite of, the significance of talent management, a number of educational institutions lack people both in terms of quantity and quality (Fabunmi and Isah, 2004; Abdullah and Abubakar, 2017; Mohamed Jais et al., 2021), which lead towards the much-discussed decline in educational standards at many universities (Abdullah and Abubakar, 2017).

Money, men, and machines are the crucial means that increase the capital of universities in order to achieve their goals effectively and efficiently. People are the main resources of organizations which play an important role (Kahinde, 2012). Human resources of the institutions are referred to as factors of production because men working in the institution have different values to perform their particular tasks. Concurrently, firms give more value to talented workers (Gilal et al., 2022; Kahinde, 2012). Intellectual capital regards the human resource as an intangible resource that is associated with the people (Gong et al., 2022; 2023). These tangible and intangible resources like money, markets, men, and physical assets together boost up total value of the business in the market (Armstrong, 2011). Expertise in talent management means putting the right people in the right jobs (Devine, 2008; Gilal et al., 2022). Also, this guarantees that personnel are using their abilities to the fullest for the institution's greatest chance of success. Talent management means selecting, attracting, retention, and developing employee organizations. Both the private and public sector organizations acquire the right staff for the right job which meets the relatively new area to establish their priorities (Baheshtiffar, 2011). As organizations like universities increase talent management is more critical and gains importance

across countries in both business practices and literature. Since it is claimed that to gain institutional strategic success, talent management is the top priority for fast-growing economies (Hartmann et al., 2010). Simultaneously, Innovation affects all the internal and external factors of institutions, beginning from the methodology of operations to the objectives of strategy and execution actions plan (Ortega et al., 2015; Ye et al., 2015; Talonen and Hakkarainen, 2014; Chen et al., 2021; Pandita, 2021). It also explains the fundamentals of methodology for the development and long survival of individuals as well as for organizations (Raytcheva and Hermel, 2010) and played an important role as one of the drivers of development and economic growth significantly, creation of employment and improvement of life (Banerjee and Thakurta, 2013; Maghsoudi et al., 2015; Thunnissen, van Arensbergen, van den Brink, 2021). It also revamps the base of knowledge and reasonable differentiation results (Singh and Aggarwal, 2017).

According to the research conducted by Bedi (2019) decision-making management is under the umbrella of innovation. Based on the findings of existing research Saunila (2017) measurement of innovation performance of direct connection with the service of operational performance. The definition of innovativeness stated by De Leede and Looise (2005) is a radical and conscious change in current products and processes to achieve competitors. Becker and Matthews, (2008) indicated the innovativeness of an organization as the novelty creation, which when implemented and exploited, turns out as viable value. Over the past few decades, non-western countries have emerged as remarkable innovation hubs (Jain et al., 2012). Contrarily, the chance is not showed up by innovation. The existing intent management of intangible resources, such as intellect and knowledge, eases innovation introduction and right development (Varis and Littunen, 2010; Odugbesan, 2022). Hence, the current and future institutions' capabilities are also connected with the employees' learning collectively (Khandekar and Sharma, 2005; Vosburgh, 2022). Chaturvedi et al. (2022) attempt to explain innovation as a talent-management outcome in a non-western country, as an organization comprises around 45% substantial proportion of our talented energy and an important component of the economic development of the country. According to the work of Deloitte (2010) non-western countries mainly face difficulty, specifically, the organizations belonging to the upstream sector led to an increase the talent management practices activity and exploration, low organizational awareness, lack of entry-level talent, low attraction towards organization, good foreign possibilities, bad government insight, cyclical organization, workforce aging, etc. It is frequently believed in HR practices, that the competence and development of all important organizations is to hire competitive talents. But this belief is a mistake. Indeed, to bridge the gap there is a need for strategic talent management (STM) (Schreuder and Noorman, 2019). Chaturvedi et al. (2022) describes the validity scale by constructing talent management and also understand its association with the innovation of organization, creativity, context, and innovation skill practices and considering key

talent management and found that the study showed the significant impact of talent management practices on HR outcomes. In this study, the researcher employs the process of the moderation model as explained and developed by (Hayes, 2013). The moderation influence is explained by Hayes (2013) as “an interaction effect of two variables, the independent X and the moderating M, on a third dependent variable Y”. The purpose of this study is to investigate the impact of talent management practices on HR outcomes and to examine the moderation effect of organizational culture on the HR outcomes of the public-sector universities in Khyber Pakhtunkhwa Pakistan. In addition, the study also determines whether public-sector universities of Khyber Pakhtunkhwa Pakistan promote talent management practices or not.

2. Literature Review

As a result of social evolution, the word TM now encompasses a wide range of connotations that are reflected in significant HR trends in contemporary societies. Selecting and attracting the most intelligent and talented individuals, as well as identifying and evaluating criteria indicative of managerial success, were early areas of concentration in the process of hiring, especially for top-management leadership positions (Gong et al., 2021; Miner, 1973; Taamneh et al., 2021). As the overtime HR sector has evolved, however, more exact definitions have emerged. Collings and Mellahi (2009) provide a typical definition of TM as “actions and procedures that systematically identify key positions that differently contribute to the organization's long-term competitive advantage, the creation of a talent pool of high-performing incumbents and high-potential to fill these roles, as well as the creation of a unique human resource architecture to make it easier to find qualified candidates for these positions, as well as to guarantee that they will maintain their dedication to the organization” (p. 304). The same authors acknowledge that the first step in the implementation of TM systems should be to identify essential organizational positions or roles that are mission-critical. This presupposes that there is a readiness to recognize the existence of strategic positions inside organizations as opposed to ones that are not strategic. A presumption behind this strategy is the need to cultivate talent pools from which to fill these roles. Management of recruiting, then, is driven by the needs of the position at hand and is carried out via a mix of “external recruitment and internal development” (p. 308). To get the most out of their potential and reduce employee turnover, firms should encourage employee job motivation, extra-role performance, and organizational commitment as stressed by the authors.

A more 'global' dimension of talent management (also known as Global Talent Management, or GTM) has arisen in tandem with the increasing globalization of enterprises. According to Vaiman, et al. (2012) GTM refers to organizational initiatives that contribute to cultivating, selecting, attracting, and retaining the best individuals in the most crucial roles across the globe and enable them to become

leaders (Nawaz et al., 2022; 2023; Li et al., 2021). In their study, Stahl et al. (2012) aimed to determine which GTM principles ought to be established and implemented in order to guarantee the most effective organizational growth and success. The authors gathered information from 33 MNCs with headquarters in 11 countries and conducted in-depth analyses of 18 of them. The writers chose their targets based on the organizations' stellar track records in both business and employment. In their research, the authors distinguished between the inclusive approach and differentiated approach i.e., available to all employees and limited to high-potential employees respectively. As a general conclusion, the findings recommend that businesses refrain from blindly imitating the strategies employed by successful competitors. Instead, businesses should make sure their TM practices are in line with their overall ethos and strategy. The authors highlight six guiding principles for effective GTM: (1) a balancing of global and local demands; (2) employer branding through distinction; (3) cultural embedding; (4) internal consistency; (5) management engagement; and (6) alignment with strategy (Chaturvedi et al., 2022).

Consequently, it is clear that both concepts and practices are converging, but it is still crucial for businesses to adopt "best" practices according to the circumstances in which they operate. Although "best practices" are helpful, in the end, it is up to each individual company to implement GTM strategies that are the "best fit." The significance of expatriation is another important aspect of GTM to remember. In this regard, Shen and Hall (2009) GTM defined as the process of coordinating the deployment of skills and the management of talent for employees stationed abroad. However, no less importantly, it is imperative that the repatriation process that is not underestimated be managed in a way that is beneficial to both the individual and the organization (Gong et al., 2020; Yahaya, and Ghani, 2021).

In conclusion, the concept that maximizing people's skills is a source of ongoing competitive advantage has been the driving force of TM theories (Scullion et al., 2010). Because of this, TM has become closely associated with HRM practices in businesses with the goal of improving company output (Farndale et al., 2010). While many large corporations have implemented TM tactics, medium and small businesses have been slower to do so. The depicted conception of TM is consistent with such results-oriented tendencies. We believe it is our opinion that HR managers, senior managers, and line managers, of their firms all of whom may have different views on the sources of competitive advantage—need to reach a consensus on what constitutes "talent," in agreement with (Dries and Pepermans, 2012).

Human resource outcomes of talent management are a primary focus of the present research since they are a key enabler of outcomes at the organizational level (Chaturvedi, 2021). To remain creative and competitive, organizations should make a concerted effort to develop, acquire, and retain creative people (Cook, 1998; Mehmood et al., 2020). Brand (1998) suggests that Organizations recognize the importance of attracting and developing their intellectual capital, which means they

should seek out and hire people who are well-versed in their fields, creative in their problem-solving approaches, and committed to working tirelessly to achieve their goals. He contends that organizations should hire people who are smart, know a lot, can think of new ways to do things, and are willing to work hard to reach their goals. Talent management has been shown to have a positive and vital correlation with worker and organizational level outcomes like creative thinking and originality, competency development, flexible workplaces, financial results, and organizational culture, best employers in Asia study (Hewitt Associate's, 2003). Similarly, Bounfour and Miyagawa (2015) noted that the primary driver of innovation expansion i.e. intangibles like talent management have emerged as a key accelerating factor (Mehmood et al., 2020). Effective talent management results in superior output, which in turn encourages the development of fresh talent and facilitates the establishment of a system to recognize and reward its members enabling employees to become future ethical leaders (Zhang et al., 2018; 2019; 2021). It's a boon to innovation, too. As quoted by Rezaei et al. (2018) "Knowledge management has a positive correlation with organizational innovation." This research aims to clarify the meaning of Hewitt's (2003) quoted terms "creativity," and "innovation," in the context of talent management. Research model of present study is depicted in Figure.1.

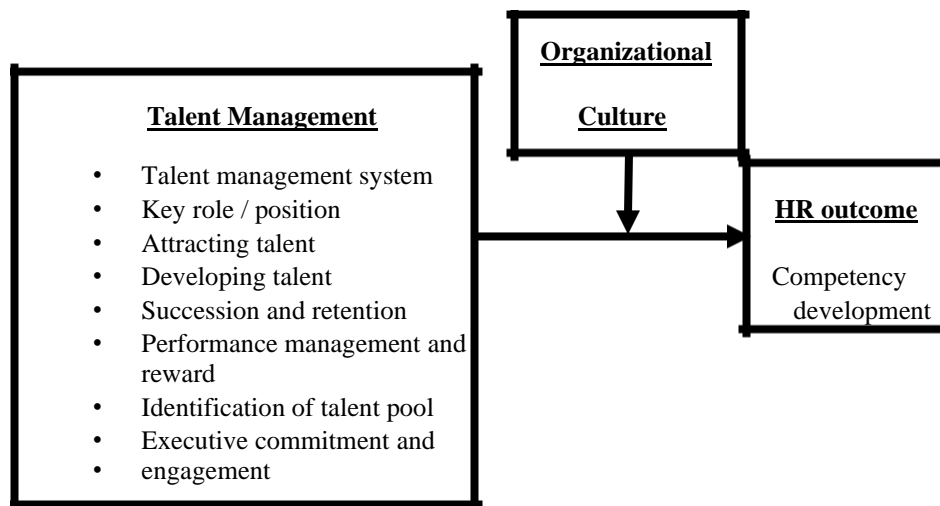


Figure 1 Present study research model

3. Problem Statement

There are three realities that fueled the interest among universities. For conducting this research there are additional motives along with the preceding. First, In nonwestern countries there is a scarcity of research on TM (Abdalla and Al-homoud,

1995; Al-Athari and Zairi, 2002; Aladwan et al., 2014), and the fact that the majority of TM research has been undertaken in Western nations (Cappelli, 2008; McDonnell et al., 2011; Jones et al., 2012; Collings et al., 2015; Mousa and Ayoubi, 2019), relatively few research concentrating on non-Western contexts such as Pakistan (Cooke et al., 2014; Taamneh et al., 2021). Second, universities are consistently improving their reputations and try to gain a competitive edge over counterparts by attracting and retaining bright academicians who play an important role in increasing the overall quality of education and research (Gilliot et al., 2002; Lorange, 2006; Edwards and Smith, 2010; Al-Sada et al., 2017; Lombardi et al., 2017; Neri and Wilkins, 2019). Third, teaching faculty never remain in fewer universities for longer times but always tries for better opportunity in other institutions (Clunies, 2007).

3.1. Research Objectives

1. To analyze the relationship among talent management, organizational culture, and competency development, in the public universities of KP Pakistan.
2. To identify the effect of talent management on competency development in public universities of KP Pakistan.
3. To measure the moderating role of organizational culture in the relationship of talent management with competency development in public universities of KP Pakistan.

3.2 Research Questions

1. How talent management and organizational culture is related to competency development?
2. How does talent management influence competency development?
3. How would organizational culture act as a moderator in the relationship of talent management with competency development?

3.3 Research Hypotheses

H1: There is a positive significant relationship between talent management, organizational culture, and competency development.

H2: There is a significant positive effect of talent management on competency development.

H3: There is a significant effect of organizational culture as a moderator in the relationship of talent management with competency development.

4. Research Methods

4.1. Data Collection Method

The primary data was collected through a questionnaire. The geographical area of the KP is 101,741 km² / (39,282 sq mi). Distributed questionnaires were 475, of which 378 were usable questionnaires, and a 79.57% response rate was calculated for the required study.

4.2. Research Population

The population of the study include all the elements of the research study through which all the researchers draw their conclusions (Blumberg et al., 2014). The population of the study contains all the faculty members of KP, of 32 universities.

4.3. Sample Size

According to source HEC statistics (2017-2018), the total number of faculty members is 4915 which is less than 5000 so the appropriate sample size was 378.

4.4. Sampling Technique

In order to gather data, the current investigation utilized a convenient sampling method which is a non-probability technique. The sample size i.e., 378 determined through the formula given by (Yamnee, 1967). The nature of this investigation is quantitative. Quantitative research is that which attempts to answer a query by analyzing quantitative data, i.e., data presented in the form of figures and numbers (Hashim, 2013; Taylor, 1998). The questionnaire was constructed using the Likert 5-Point Scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree). To determine the effect of the variables, SPSS was used to analyze the data.

4.5 Instrument Design

For the independent variable (Talent Management), facets are included, 05 items are related to the Talent management system, 05 items are related to Key roles or Positions, 05 items are related to Attracting Talent, 05 items are related to Developing Talent, 06 items are related to Succession and Retention, 06 items are related to Performance Management and Reward, 06 items are related to Identification of talent Pool, 06 items are related to Executive commitment and engagement and adapted from (Yuniati et al., 2021; Vermeeren, 2014; Al Aina and Atan 2020; Abdollahbeigi et al., 2017; Tiwari and Shrivastava, 2013; Mngomezulu et al., 2015; Ibrar and Khan, 2015; Albrecht and Marty, 2020). On the other hand, Moderating variable (Organizational Culture) and dependent variables HR outcomes (Competency development), 07 items are related to Organizational Culture, and 05 items are related to Competency development (Younas and Waseem Bari, 2020).

5. Data Analysis

SPSS-25 and factor analysis were employed to analyze the data, as they are the most powerful and widely used methods for doing so. The questionnaires used to compile the data for the present investigation were distributed in a survey format. In the present quantitative research, Validity, Reliability, Normality, Hierarchical Multiple Regression, and Pearson's Correlation are among the most important Analysis tools, that were utilized for interpreting the results i.e., talent management, organizational culture, and competency development.

5.1. Results

Table 1: Data Normality

	N	Min	Max	Mean	Std. Devi:	Skewness		Kurtosis	
Talent management	378	3.32	4.98	4.1150	.38707	.308	.125	-.984	.250
Organizational Culture	378	3.57	5.00	4.3711	.40157	.219	.125	-1.094	.250
Competency Development	378	3.50	5.00	4.3197	.36845	.528	.125	-1.012	.250
Valid N (Listwise)378									

The normality results are depicted in Table 1, the variable with the lowest Skewness (-1.012) is Competency Development (M=4.3197, SD=0.36845), whereas the variable organizational culture with the highest Skewness (.219) and their (M = 4.3711, SD=0.40157). On the other hand, talent management has the lowest Kurtosis (-.984) and their (M = 4.1150, SD =.38707). So, Skewness and Kurtosis are reported in the given range and are normal (Field, 2013).

5.2. Validity of The Instrument

Table 2: Exploratory Factor Analysis (EFA)

Variables	KMO	BTS	Sig	Total No: of Factors
				Based on Eigen Values
Talent Management	.773	16357.290	0.000	13
Organizational culture	.849	669.199	0.000	1
Competency development	.822	632.792	0.000	1

Results in Table 2 depict that all of the variables' KMO values exceeded the 0.5 threshold with the BTS mentioned above, all of the variables' p-values were below the 0.05 threshold, and the total variance explained elaborated results depicted a total of

for talent management has 13 factors, organizational culture has 1 factor, for creativity and innovativeness has a 1 factor, based on their Eigen values. Also, all the items' results depicted that factor loadings were greater than the threshold for the factor analysis (Pallant, 2010; Field, 2013).

Table 3: Data Reliability

Variables	Cronbach's Alpha	No of Items
Talent Management	.923	44
Organizational culture	.790	7
Competency development	.769	6

For further data analysis reliability or consistency is ensured by the data reliability (Field, 2013). In social sciences, investigating the reliability of parametric data Cronbach's alpha is employed for internal consistency of the data. Refer to Table 3 where Cronbach's alpha has a threshold value of ".6 or.7," which means that if the value of Cronbach's alpha is ".6 or.7" or higher, the instrument is said to be reliable (Gaur and Gaur, 2006; Pallant, 2010). The data depicted that Cronbach's alpha values for the variable's talent management, organizational culture, and competency development are "0.923, 0.790, and 0.769" for 44 items, 7 items, and 6 items, respectively. So, it is evident that the scale used to assess organizational culture, talent management, and competency development will provide reliable results (Gaur and Gaur, 2006; Pallant, 2010).

Table 4: Correlation Analysis

Correlations				
		TM	OC	CD
TM	Pearson Correlation	1	.349**	.781**
	Sig. (2-tailed)		.000	.000
	N	378	378	378
OC	Pearson Correlation	.349**	1	.512**
	Sig. (2-tailed)	.000		.000
	N	378	378	378
CD	Pearson Correlation	.781**	.512**	1
	Sig. (2-tailed)	.000	.000	
	N	378	378	378

5.3. Correlation Analysis

The variables in the current investigation are bivariate, and Pearson's Correlation was applied. The correlation values are positive which is revealed by the results, and threshold results for the probability are less than 5%. Results in Table 4 elaborated that the correlation value of talent management and competency development is maximum. In a nutshell, the results elaborated that talent management is directly and significantly proportional to competency development and organizational culture, hence, H1 of the study is accepted.

Table 5: Simple linear regression (Model-I)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.781 ^a	.610	.609	.23048	587.438	.000 ^b

5.4. Regression Analysis

Prior to conducting moderation analysis, simple linear regression statistics are used. The results in Table 5 showed that there is a 61.0% change in competency development due to talent management, and the whole model is significant as the probability statistics satisfy the threshold at a 95% confidence interval. Hence, H2 is supported by the study.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.261	.127		9.949	.000
	TM	.743	.031	.781	24.237	.000

The results of the model coefficient depicted that talent management has a beta value of 0.743. This means that when talent management changes by one unit, competency development changes by 0.743 units, with $t = 24.237$ and $p < 0.05$. see Table 6

Table 7: Multiple Hierarchical Regression (Model-II)

Variables	Coeff:	SE(B)	R ²	R ² Change	Model Summary(P)	T	P
Constant	4.3129	.0116	.6773	.0021	.0000	370.6021	.0000
Organizational culture	.2598	.0294				8.8468	.0001

Talent Management	.6418	.0306				20.9399	.0000
(Organizational culture*Talent Management) Int	.1243	.0799				1.5569	.1203

The results in Table 7 depicted that $R^2 = .6773$ with $p < 0.05$, which means that talent management causes a 67.73% variation in competency development. The model as a whole is statistically significant at the 95% confidence level.

5.5. Moderation Analysis

Organizational culture is used in the present study as a moderator on the relationship between talent management and competency development. Support for Hypothesis H3 was found by using the reported change in R^2 as a basis for evaluating the moderating effect, as stated by (Jaccard et al., 1989). The results of the study of moderation depict that the value of R^2 change = 0.0021, with $p < 0.05$. The beta score of talent management (independent variable) is 0.6418 with $p < 0.05$, beta score of organizational culture (moderator) is 0.2598 with $p < 0.05$ explained by the model coefficient. Results explained that with the one-unit change in talent management, there will be a 0.6418 unit variation in competency development, the beta score of organizational culture revealed that with the one unit change in moderator, there will be 0.2598 unit variation in competency development, and at last, the beta value of interaction term (talent management *organizational culture) explained that with the one unit change in interaction term, there is 0.1243 unit variation in the dependent variable. Here the study results also confirm the moderation criteria given by (Aiken and West, 1991). As a compulsory part of the moderator to act as moderator, significant interaction by the same authors. The results also shed light or depict the nature of the effect that occurs when a moderator is included in the model, which has a buffering effect. i.e., the inclusion of organizational culture as a moderator decreases the effect of talent management on competency development.

According to Aiken and West (1991) researchers need to classify the moderator into one of three groups before examining the conditional effects of the moderator on the dependent variable (Low organizational culture, Moderate organizational culture, and High organizational culture). The conditional effects of groups showed that a low organizational culture is shown by the blue line, a moderate one by the green line, and a low one by the yellow line. The low organizational culture had an R^2 value of 0.669, and it's under root revealed a correlation of 0.817 between talent management and competency development. The R^2 value for a moderate organizational culture is 0.603, with a correlation of 0.776 between talent management and competency

development, and the value for a high organizational culture is 0.627, with an elaborated under root correlation of 0.719. The effects are illustrated in Figure 2.

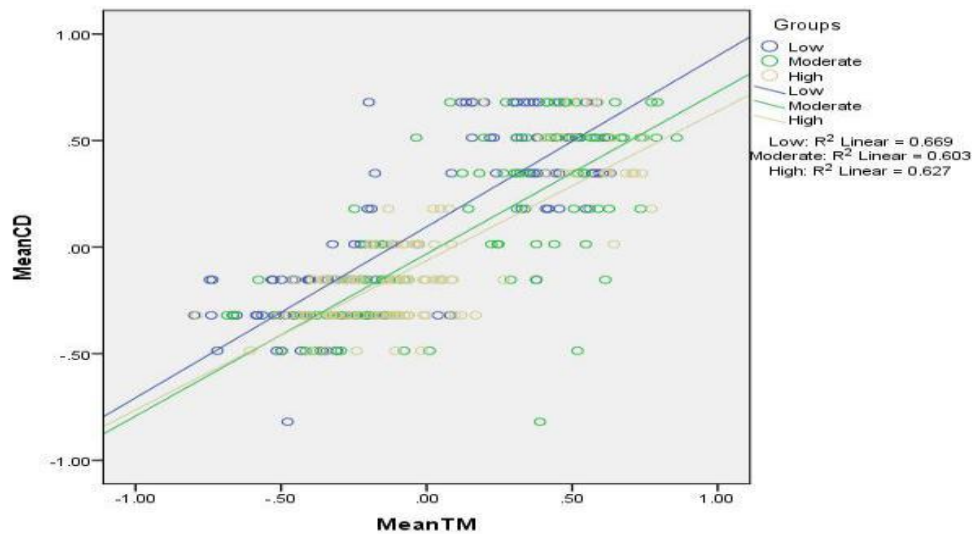


Figure 2: Effects of moderator on the model

6. Discussion

The knowledge economy emphasizes the value of talent management (TM) one of the talking points about basic tools of institutions like tangible and intangible assets to manage employees and focuses on human capital rather than physical capital (Dhanalakshmi and Gurunathan, 2014).

Researchers moved on to inferential statistics once all the assumptions of descriptive statistics had been met. In the current research, a parametric test called Pearson's Correlation is used to check the relationship between the study variables and meet the first research objective. Because the R-value is positive and $p < 0.05$, the results showed that there is a positive and significant relationship between talent management, competency development, and organizational culture. Based on these findings' hypothesis one "H1" is accepted. This means that the effective use of talent management along with a supportive culture will enhance the university's competitive advantage and retain their seniors to build up quality education and research and to show the separate entity from the other universities. So, higher education institutions should have to focus on investing the talent management by changing their HR policies regarding the importance of talent management, organizational culture, and its positive influence on competency development that brings a significant change in the

institutions to achieve their competitive advantage. The study's findings are in line with (Rezaei et al., 2018; Hewitt Associate's 2003; Chaturvedi et al., 2022) and support the theory i.e., the Theory of Miner, (1973).

The study's second objective was to evaluate the impact of talent management on competency development. The researcher used simple linear regression to examine the impact of talent management on competency development. The results showed that talent management has a significant influence on competency development, with $R^2 = 61.0\%$ and $p < 0.05$ level of confidence. The beta value revealed a positive influence because $\beta = 0.743$, which means that for every unit change in talent management, there is a "0.743" unit change in competency development. Hypothesis two "H2" is accepted based on the findings. The research's findings corroborated with (Hewitt Associate's 2003; Chaturvedi, 2021; Bounfour and Miyagawa, 2015; Srivastava and Chaturvedi 2014; Rezaei et al., 2018; Chaturvedi et al., 2022).

The third purpose of this study was to determine the moderating effect of organizational culture on the relationship between talent management and competency development. Multiple hierarchical regression was performed and the process file (Model-1) in the present investigation (Hayes, 2013). $R^2 = 67.73\%$ and $p < 0.05$ indicated that the whole model strongly influences competency development. Results of moderation analysis indicated that organizational culture acts as a moderator (buffering effect) on the relationship between talent management and competency development because R^2 change = 0.0021 with $p < 0.05$ for the variable talent management, β value = 0.6418 with $p < 0.05$ for the variable organizational culture, and β value = 0.2598 with $p < 0.05$ for the interaction term (talent management*organizational culture) also confirm moderation (Aiken and West, 1991). The findings demonstrated that the presence of organizational culture as a moderator mitigated the impact of talent management on competency development. Based on current evidence, the third hypothesis, H3, is unaccepted.

The conditional effects of the moderator and independent variable on the dependent variable are also examined by the researcher. Aiken and West (1991) employed an interaction plot to study conditional effects, and their findings showed that organizational culture had high, moderate, and low organizational culture effects. The present study also identifies that organizational culture acts as a buffering moderator in between talent management and HR outcomes i.e., Competency development, but showed the insignificant moderation effect with competency development, having the insignificant supportive culture changes competency development which results in losing their seniors teaching faculty members.

7. Theoretical Implications

Overall, the study's findings contribute to a better understanding of talent management, corporate culture, and competency development. These findings hold significant implications for scholars, higher education institutions, and academicians.

The current paper examines the moderating effects of organizational culture on the relationship between talent management and HR outcomes in public-sector universities in emerging economies such as Pakistan. The study introduces the theory proposed by Miner (1973) and the underlying theories to support the analysis. Furthermore, a comprehensive review of relevant literature highlights how the behaviors and capabilities of organizational members, along with human resource development practices, contribute to improving HR outcomes in public-sector universities in developing economies. However, there is still a need to establish a clear understanding of how human behaviors and organizational HR-related practices promote the enhancement of HR outcomes, particularly when considering the context of public-sector organizations in developing countries.

8. Managerial Implications

The performance and competitiveness of an organization are enhanced through the cultivation of a supportive culture. In the context of universities in Pakistan, the implementation of consistent talent management techniques can elevate standards, serve as a repository of enterprise knowledge, and contribute to improved performance and research outcomes both nationally and internationally. It is concluded that talent management practices, encompassing HR outcomes, HRM policies, and a supportive culture, effectively enhance an organization's competitiveness, performance, and senior staff retention. In order to thrive in the knowledge economy, higher education institutions (HEIs) must prioritize performance to meet both short-term and long-term objectives. This necessitates valuing knowledge, fostering a conducive learning environment, nurturing a supportive culture, and recognizing talent management practices as a vital asset that surpasses the resources of all institutions. This research paper further suggests that the top management and administration of public universities should acknowledge the diverse possibilities that emerge from the network of relationships among institution members. The study encourages the top management, administrators, managers, and policymakers of public-sector universities to embrace the various scenarios that arise from the relationships between organizational members, as these networks have significant potential. It is important for organizations to proactively respond to a wide range of information and social stimuli from both internal and external sources, as this is essential for the adoption of innovative talent management practices, which, in turn, contribute to enhanced HR outcomes.

9. Future Directions

Future research could benefit from incorporating qualitative techniques to gain a deeper understanding of the problem, as this study has primarily employed quantitative methods. A mixed methods approach, such as an explanatory sequential research design, could be employed in future studies. Additionally, it is important to

consider the role of external and internal factors, such as environmental turbulence and corporate size, as moderator variables in future research. Building on the work of Chaturvedi et al. (2022) and Bishwas (2015) exploring the relationship between innovation and flexibility within the suggested model would be valuable for future studies. It may also be worthwhile to investigate other service industries, such as the oil and gas industry, in relation to the aforementioned concerns. Longitudinal data collection is a potential avenue for further research, and comparative studies can also provide valuable insights.

10. Conclusion

Universities worldwide are facing the challenge of talent management scarcity, impacting the quality of education and research and leading to the loss of senior faculty members. Talent management practices offer effective solutions to address these issues and achieve better HR outcomes through skilled employees.

The first objective of this study was to examine the relationship between talent management, competency development, and organizational culture. Correlation analysis was conducted, revealing a positive and significant association among these factors. Thus, the first objective has been successfully accomplished based on the data. To fulfill the second objective, which aimed to determine the influence of talent management on competency development, simple linear regression was utilized. The conclusive findings demonstrated that talent management has a substantial impact on competency development, thereby achieving the second objective.

The researcher further investigated the moderating role of organizational culture in the link between talent management and competency development. A moderation analysis using Hayes' process file was conducted, revealing that organizational culture plays a significant role as a moderator in the interaction between talent management and competency development. This accomplishment fulfills the third objective of the research. The completion of the first and second objectives leads to the conclusion that talent management plays a vital role in harnessing the skills of faculty members in public-sector institutions in KP. Managers, administrators, policymakers, and academics are encouraged to prioritize talent management operations both in practice and academia. Furthermore, the results of the third objective indicate that the presence of skilled employees in universities contributes to increased innovation, creativity, and competency development in academic work, research, and overall university performance. It is evident that university cultures do not hinder or weaken the effect of talented employees and that the retention of senior faculty members and adequate replacements remain crucial areas for universities to address.

Author Contributions:

1. Dr. Sher Zaman Khan (Principal Author) Assistant Professor Institute of Business Administration, Gomal University, Khan. The principal author initiated the idea via

available models on papers, identified the gap, and developed a scale for the purpose of data collection and interpretations of findings.

2. Dr. Mahad Jehangir (Corresponding Author) Lecturer Deptt: of Business and Management Sciences, University of Lakki Marwat. The author made a valuable contribution in designing the methodology i.e., population, sample size, techniques, data collection methods, data analysis tools as well as the conclusion of the study.

3. Muhammad Haseeb Qureshi PhD scholar (Corresponding Author), Qurtuba University of Science and Information Technology, Department of Management Sciences Khan, KP, Pakistan. The author made a valuable contribution in writing a literature review of the paper, analysis of the data, and data Collection.

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Profitability of Pair Trading: A Case of Islamic Indices in Pakistan

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Abstract:

The pair trading strategy under portfolio construction is one of the profitable strategies. This is first ever study to observe the pair trading strategy using Islamic Index KSE firms. Distance approach is applied in this study by taking firms under KMI-30 Islamic index by using daily data from year January 1, 2012 to year December 31, 2019. These firms are divided into three subcategories, high-cap, mid-cap and low-cap. After formation of pairs, trading algorithm under various parameterizations is used to observe the profitability. The study concluded with positive and significant returns of top 3, 5, 7 and 10 pairs for each category. In addition, this study also witnessed with positive returns after risk adjustment of market factor for the top 3, 5, 7, and 10 pairs of Islamic index's firms. These results are accordance with theories of mean revision and market neutrality. The study is contributing to the literature regarding the profitability of pair trading in Islamic Indices firms in Pakistan. Policy Implication for Islamic fund managers and investors is recommended.

Keywords: *Exchange rate, Bayesian regularized neural network, ARIMA, random walk.*

1. Introduction

The pair trading strategy under portfolio construction is one of the profitable strategies, where, two financial assets are taken and the long-run relationship is observed under different methodologies like distance approach, copulas, co-integration, correlation etc. Once, the long-run relationship is occurred, short position is taken for over-priced financial asset and long position is taken for under-priced financial asset (Vidyamurthy, 2004). This is basically

statistical arbitrage opportunity that happened the deviations of mean from the relationship of selected pairs. When Pairs converge to their mean, profitability is generated, that is mean reversion theory followed in pair trading. (Gatev, Goetzmann, & Rouwenhorst, 2006).

According to (Krauss & Christopher, 2015), various methodologies are in place to identify pairs of different financial assets like distance approach, price ratio, copulas, and co-integration, etc. (Charles & Darné, 2009) emphasised on market timing for pair selection. Keshavarz Haddad, & Talebi (2023)

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evaluated the effectiveness of distance, co-integration, and copula functions as tools for selecting and implementing trading strategies for pairs in the TSX during the period from January 2017 to June 2020. In pair trading, transaction cost, is the major cost, whereby, profitability is usually abridged (Kanamura, Svetlozar, & Frank, 2011).

The study of Bowen & Hutchinson (2016) is different from other studies of pair trading as they used high frequency data and positive and significant profitability was reported in pair trading strategies. They also reported that this profitability is significantly reduced due to; transaction cost, sensitivity of returns and some additional factors. In the same tune, the results of Jacobs & Weber (2015) studies came with the investor attention, interaction of news, and limitation of arbitrage process factors of pair trading strategies. In the recent studies of Zhang and Urquhart (2019) and Ramos-Requena, Trinidad-Segovia and Sánchez-Granero (2020) different approaches of pair trading are used. They also reported positive returns under this strategy.

In some pair trading strategies different approaches were used. According to (Gizatulina & Hellman, 2019), “constraints on disagreements in the case of different priors and common p-beliefs have also been driven”. Similarly, (Baier, Yotov, & Zylkin, 2019) came with the results as “A novel two stage methodology has been used to investigate the experiential factors of the ex post impacts of past free trade agreements. Their results revealed that FTA impacts were not strong for more distant pairs”.

Going through extensive literature review, it has been observed that fund managers of hedged funds created tremendous profits by using pair trading strategies, that starts from 1980s and still these strategies are in place. “Tartaglia’s group and Bamberger are said to be pioneer of the usage of pair-trading strategies” (Gatev, Goetzmann, & Rouwenhorst, 2006). One of the attractive features of this strategy is getting the positive returns market neutrality (Kanamura, Svetlozar, & Frank, 2011). Islamic indices are

based on Sharaih rules hence different from the conventional. The question is to what extent investors use Islamic indices in pair trading and how much returns they are getting. Presently there are dearth of the studies which address this issue and the present study is an attempt to address this gap in Islamic equity markets literature.

In Pakistan, to best of our knowledge, no one study exist to take one of the emerging market like KMI-30 index firms especially and all other firms in general to observe the profitability under the umbrella of pair trading. Therefore, this stud will focus on these objectives:

1. What are the returns of KMI-30 index firms by using distance approach in pair trading?
2. What is the risk adjusted returns of KMI-30 index firms by using distance approach in pair trading?
3. What are the range of returns of KMI-30 index firms under different market capitalization by using distance approach in pair trading?

In this study, distance approach is used for selection of pairs by using daily data of 12 months. This study significantly will contribute the literature by filling the gap on pair trading strategies by taking Islamic Index firms. This study will be especially beneficial for Islamic fund managers, in addition to general fund managers and investors.

2. Literature Review

While going through literate, it seems to be that the pair trading strategies were not be the focussed of researchers till 1980. One of the prominent studies is (Gatev et al., 2006). He used the data from year 1962-2002 in USA and applied distance approach. The annual return of 11% was observed without transaction cost.

Some researchers reported that this strategy is not giving the convincible positive returns while taking transaction cost (Lei &

Xu, 2015). In contrast to (Lei & Xu, 2015), positive returns in the presence of transaction cost have been reported in many studies like (Gatev et al., 2006). The co-integration approach is also one of the approaches in pair trading strategies (Vidyamurthy, 2004). He reported profitability by using co-integration approach and linked APT of (Ross, 1976).

Mori and Ziobrowski (2011) used distance approach and reported profitability in pair trading. In the same line Smith and Xu (2017) also applied distance approach for formations of pairs and reported positive returns. However, Ferretti, Paraskevopoulos, and Tang (2018) used VECM and reported profitability under pair trading. Most recently Namwong, Yamaka, & Tansuchat (2019) reported profitability under pair trading in Thailand.

Bowen & Hutchinson (2016) focussed on high frequency data and reported studies excess returns of portfolios of pair trading. However, they also pointed out sensitivity of return with regard to transaction cost and some other factors. In the same line Jacobs & Weber (2015) also reported profitability of pair trading portfolios and discussed some addition factors like interaction of news, investor attention, and limitation of arbitrage process.

Fung & Hsieh (1999) concluded his study that risk in pair trading is different. The study of Schmidt (2008) was the mean reversion of pair trading.

Pair trading may be categories with reference to different methodologies like “the distance approach (Gatev et al., 2006), Stochastic spread (Elliott, Van Der Hoek, et al., 2005), stochastic residual spread (Do & Faff, 2010) and co-integration approach (Liew & Wu, 2013)”. The distance approach is used by Nath (2003), Daeves & Ehrhardt (2016), Yuksel (2010). In all these studies excess returns of portfolios of pair trading have been reported.

Some of the researchers used co-integration methodology like; (Paul &

Vaihekoski, 2012), Lin, Mccrae, & Gulati (2006), (H. Puspaningrum, Y. X. Lin, 2009), Galenko, Popova, & Popova (2012), Caldeira & Moura (2013), and (Krauss & Christopher, 2015). Although some technical aspects were discussed in these studies, however in all these studies excess returns of portfolios of pair trading have been reported.

In some studies, the results of pair trading are compared by using different methodologies like Bodurog (2010), Caldeira & Moura (2013), Lin et al. (2006), Hong & Susmel (2003), Liew & Wu (2013) and Basher & Sadorsky (2016). However, in all these studies excess returns of portfolios of pair trading have been reported.

Based on discussion of the comprehensive literature review in introduction part and literature review, in this study, pairs are formed through distance methodology and portfolio returns are calculated to check the profitability. The main hypotheses of this study are:

H₁: Abnormal returns of top 3, 5, 7, and 10 portfolios in pair trading are positive.

H₂: Jensen’s alpha of abnormal returns of top 3, 5, 7 and 10 portfolios in pair trading are positive.

3. Research Methodology

This study has taken 30 firms of KMI index and sorted on the basis of market capitalization. These firms are divided into three subcategories, high-cap, mid-cap and low-cap. Each category contains 10 firms. From each categories 45 combinations of pairs are formed, and from each category top 3, 5, 7 and 10 pairs are selected by using distance approach. The daily data from January 2012 to December 2020 is used as less volatility in the stock market is observed during this period.

In this study Gatev, Goetzmann, & Rouwenhorst (2006) methodology is applied that is one of the most prominent approach in pair trading and still used in latest studies like study of Baier, Yotov, & Zylkin (2019), Ramos-Requena, Trinidad-Segovia and

Sánchez-Granero (2020) and Sohail, Raheman, Adil, Rizwan, and Khan (2020) etc. According to this approach the prices of stocks should be normalized. To get the normalized prices the following model is applied. Here, T_{fp} is the total number of trading days of formation period of pairs and will take the values $t = 1, 2, \dots, T_{fp}$, at the end of day.

$$1. P_t^i = \prod_{n=1}^t (1 + r_n^i)$$

where r_n^i are the daily stock returns and P_t^i are the normalized prices of the stocks. After P_t^i get the prices normalized the, $D_{i,j}$, distance of two stocks i and j is computed as:

$$2. D_{i,j} = \frac{\sum_{t=1}^{T_{fp}} (P_t^i - P_t^j)^2}{T_{fp}}$$

From the above distances between the stocks are sorted from lowest to highest distances and then top 3, 5, 7, and 10 pair portfolios are selected from 45 pairs of each category under the market capitalization.

The trading period is selected for the period of six months. The most challenging part of this study encounter the problem of trading period. For this, a program is written in visual Basic to calculate the portfolio returns of top 3, 5, 7, and 10 pairs. The absolute value of spread of the trading pairs compared with the trigger value (T) as mentioned in equation (3). Trading would take place as long as it would follow equation (3). The trading strategy would be buying (Long position) for the under priced stocks while selling (short position) for the over priced stocks. Here, S is for standard deviation, calculates in equation (4). The parameterization of T values are 1.5, 2.0, 2.5.

$$3. \text{Abs}(P_t^i - P_t^j) \geq T(i, j)$$

where $T(i, j) = n \times S(i, j)$ and $n=2$.

$$4. S(i, j) = \sqrt{\frac{1}{T_{fp}-1} \sum_{t=1}^{T_{fp}} [(P_t^i - P_t^j)^2 - D_{i,j}]^2}$$

In the trading period, the returns of these top 3, 5, 7 and 10 portfolios (N_t^*) are

calculated by little modification of (Gatev et al., 2006) methodology by assigning equal weights (W_t^k).

$$5. R_t(p^k) = R_t(l^k) - R_t(s^k).$$

$$6. R_t^{port} = \sum_{k=1}^{N_t^*} W_t^k R_t(p^k)$$

Further, CAPM is also used to observe the risk adjusted performance of these top 3, 5, 7 and 10 portfolios by Jensen's alpha by using equation 7.

$$7. R_t = a_i + b_i (R_{Mt} - R_{Ft}) + \varepsilon_{it}$$

4. Results and Discussion

In pair trading, different portfolio can be formed that is based on methodology, as in this case distance approach is applied. Population of this study is KMI firms. Sample firms is based on distance approach. After the formation of top 3, 5, 7 and 10 portfolios of pairs, the descriptive analysis of all the three categories, high-cap, mid-cap and low-cap are followed by quantitative analysis. These results are discussed under different parametrizations to check whether these results are different or not under these parameterizations.

4.1. Descriptive Analysis

The results of descriptive analysis of all the three categories; high-cap, mid-cap and low-cap are displayed in Table 1 to 3 respectively.

In High-Cap, the average values of these portfolios (3, 5, 7 and 10) for different parametrizations are found to be positive. These results corroborate that pair trading strategy in KMI-30 index is also profitable. The average portfolio returns of top 3-pairs under trigger value of 2.5 is to be observed as 0.0933, which is ever highest amongst all the portfolios in this category.

On the other side, the variability is also higher this top 3-pairs under trigger value of 2.5. These results are consistent with the latest studies of Namwong, Yamaka, & Tansuchat (2019), Zhang and Urquhart (2019), Ramos-

Requena, Trinidad-Segovia and Sánchez-

High-cap	TOP 10			TOP 7		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2: Formation period	12	12	12	12	12	12
Minimum Values	-0.0073	-0.0185	-0.0064	-0.0113	-0.0204	-0.0173
Maximum Values	0.1776	0.204	0.8743	0.2339	0.2706	1.1553
Average Values	0.0383	0.0466	0.0627	0.0455	0.0577	0.0687
Median Values	0.0346	0.0348	0.0429	0.0428	0.042	0.0443
SD	0.0364	0.0406	0.109	0.041	0.0529	0.1261
	TOP 5			TOP 3		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2: Formation period	12	12	12	12	12	12
Minimum Values	-0.0221	-0.0389	-0.0229	-0.0893	-0.1121	-0.0953
Maximum Values	0.2877	0.3774	1.719	0.4061	0.745	3.4046
Average Values	0.0395	0.0569	0.0658	0.0535	0.0742	0.0933
Median Values	0.0336	0.0267	0.0359	0.0281	0.0361	0.0381
SD	0.0543	0.0741	0.1894	0.0756	0.1342	0.3727

Granero (2020) and with other studies.

Table 1:

Similarly, in Mid-Cap, the average values of these portfolios (3, 5, 7 and 10) for different parametrizations are also found to be positive. These results corroborate that pair trading strategy in KMI-30 index is also profitable. The average portfolio returns of top 5-pairs under trigger value of 2 is to be observed as of 0.0698. On the other side, the variability is also

second higher of this top 5-pairs under trigger value of 2. These results are consistent with the latest studies of Namwong, Yamaka, & Tansuchat (2019), Zhang and Urquhart (2019), Ramos-Requena, Trinidad-Segovia and Sánchez-Granero (2020) and with other studies.

Table 2:

Mid-cap	TOP 10			TOP 7		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2: Formation period	12	12	12	12	12	12
Minimum Values	-0.007	-0.0006	0.004	-0.0205	0.0009	-0.0039
Maximum Values	0.2133	0.5906	0.6013	0.2105	0.7121	0.7618
Average Values	0.0328	0.0523	0.0517	0.0346	0.0626	0.0555
Median Values	0.0252	0.0271	0.0252	0.0169	0.0337	0.0211

SD	0.0465	0.1071	0.1147	0.0439	0.1418	0.1403
	TOP 5			TOP 3		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2: Formation period	12	12	12	12	12	12
Minimum Values	-0.0147	-0.002	0.003	-0.0284	-0.0391	-0.0041
Maximum Values	0.1684	1.0401	1.1468	0.0876	0.3782	0.1419
Average Values	0.0268	0.0698	0.0606	0.0058	0.0211	0.0028
Median Values	0.0194	0.0215	0.0158	0.0016	0.0012	0.0066
SD	0.045	0.1928	0.2074	0.0193	0.0594	0.023

Under low-cap category, the average values of these portfolios (3, 5, 7 and 10) for different parametrizations are also found to be positive. These results corroborate that pair trading strategy in KMI-30 index is also profitable. The average portfolio returns of top 3-pairs under trigger value of 2 is to be observed as of 0.1196. On the other side, the variability is also higher this top 3-pairs under

trigger value of 2. These results are consistent with the latest studies of Namwong, Yamaka, & Tansuchat (2019), Zhang and Urquhart (2019), Ramos-Requena, Trinidad-Segovia and Sánchez-Granero (2020) and with other studies.

Table 3:

Low-Cap	TOP 10			TOP 7		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2: Formation period	12	12	12	12	12	12
Minimum Values	0.0015	0.0011	-0.0044	-0.0032	-0.0078	-0.0073
Maximum Values	0.304	1.4625	1.4538	0.3917	0.7505	0.7508
Average Values	0.0430	0.0915	0.0837	0.0429	0.0730	0.0610
Median Values	0.0235	0.0285	0.0236	0.0169	0.0298	0.0138
SD	0.0589	0.2705	0.25	0.0764	0.1435	0.1468
	TOP 5			TOP 3		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2: Formation period	12	12	12	12	12	12
Minimum Values	-0.003	-0.0144	-0.0069	-0.0139	-0.0291	-0.0217
Maximum Values	0.578	1.1236	1.1233	0.6529	2.1825	2.1886
Average Values	0.0612	0.0958	0.0893	0.0561	0.1196	0.1052
Median Values	0.0237	0.0239	0.0188	0.0196	0.0107	0.0155

SD	0.0975	0.2245	0.2211	0.1249	0.4057	0.3982
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The above descriptive analysis show that there is highest profitability in pair trading in the Low-cap category of KMI-30 index companies, while lowest in Mid-cap category. The common thing in these descriptive analyses is showing the recognition of profitability of this strategy for different SDs of 2.5, 2.0 etc.

4.2. Quantitative Analysis

The statistical significance of the profitability of pair trading portfolio is tested by t statistics, while risk adjusted returns of these portfolios are tested by Jensen’s alpha under CAPM to answer the research questions.

The results of t statistics and CAPM results of all the three categories; high-cap, mid-cap and low-cap are displayed in Table 4 to 6 respectively.

In High-cap, the average excess portfolio returns under different parametrizations of standard deviations 1.5, 2 and 2,5 are found to

be positive and statistically significant. Conforming the profitability of pair trading strategy in KMI-30 index. The highest average excess returns of 0.0933 are to be observed if portfolio consists of top 3 pairs under trigger value of 2.5.

Under CAPM, Jensen’s alpha of all the portfolios in pair trading under different parametrizations of standard deviations 1.5, 2 and 2,5 are found to be positive and statistically significant. These results are with accordance to prior studies of pair trading like studies of Namwong, Yamaka, & Tansuchat (2019), Zhang and Urquhart (2019), Ramos-Requena, Trinidad-Segovia and Sánchez-Granero (2020) etc

Therefore, proving the alternate hypothesis that there is significant profitability and significant risk adjusted returns in pair trading strategy in High-cap. The results also validate the market neutrality and mean revision theories.

Table 4:

High-cap	TOP 10			TOP 7		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2:	12	12	12	12	12	12
Portfolio Excess Returns	0.0383	0.0466	0.0627	0.0455	0.0577	0.0687
SD (Port. ER)	0.0311	0.0408	0.1032	0.0379	0.0536	0.1286
t-statistic	11.6227	10.3203	5.3811	10.6711	9.5638	4.9244
Prob.	0	0	0	0	0	0
Alpha (Jensen)	0.0384	0.0515	0.0612	0.0462	0.0599	0.0684
Std. Error	0.0045	0.0058	0.0139	0.0059	0.0063	0.0185
t-statistic	8.5333	8.8877	4.4117	7.8520	9.5079	3.6973
Market Risk (Beta)	0.1755	0.9088	-0.1723	0.3667	1.2565	0.2333
Std. Error	0.2382	0.3311	0.8784	0.3094	0.4335	1.0920
t-statistic	0.7368	2.7452	-0.1962	1.1850	2.8985	0.2136
	TOP 5			TOP 3		

Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2:	12	12	12	12	12	12
Portfolio Excess Returns	0.0395	0.0569	0.0658	0.0535	0.0742	0.0933
SD (Port. ER)	0.0497	0.0716	0.1859	0.0760	0.1294	0.3654
t-statistic	7.8867	7.1312	3.2081	6.4557	5.4507	2.3524
Prob.	0	0	0	0	0	0
Alpha (Jensen)	0.0428	0.0635	0.0680	0.0574	0.0876	0.0900
Std. Error	0.0060	0.0109	0.0259	0.0115	0.0183	0.0439
t-statistic	7.1333	5.8257	2.6255	4.9913	4.7817	2.0508
Market Risk (Beta)	0.6352	1.4123	0.0328	0.9302	2.2715	-0.5628
Std. Error	0.3962	0.5803	1.6082	0.6175	1.0700	3.1733
t-statistic	1.6032	2.4337	0.0204	1.5064	2.1230	-0.1774

In the same line, Mid-caps and Low-cap categories are also witnessed with the positive and significant average excess portfolio returns under different parametrizations of standard deviations 1.5, 2 and 2.5. Under CAPM, Jensen's alpha of all the portfolios in pair trading under different parametrizations of standard deviations 1.5, 2 and 2.5 are found to be positive and statistically significant.

These results are with accordance to prior studies of Namwong, Yamaka, & Tansuchat (2019), Zhang and Urquhart (2019), Ramos-Requena, Trinidad-Segovia and Sánchez-Granero (2020) and with other studies. Therefore, proving the alternate hypothesis that there is significant profitability and significant risk adjusted returns in pair trading strategy in Mid-cap and low-cap categories.

Table 5:

Mid-cap	TOP 10			TOP 7		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2:	12	12	12	12	12	12
Portfolio Excess Returns	0.0328	0.0523	0.0517	0.0346	0.0626	0.0555
SD (Port. ER)	0.0402	0.1055	0.1066	0.0453	0.1334	0.1388
t-statistic	7.6110	4.6121	4.1524	7.3653	4.3283	3.5309
Prob.	0	0	0	0	0	0
Alpha (Jensen)	0.0294	0.0476	0.0486	0.0355	0.0545	0.0474
Std. Error	0.0057	0.0138	0.0132	0.0096	0.0168	0.0200
t-statistic	5.1381	3.4457	3.6818	3.6833	3.2440	2.3722
Market Risk (Beta)	-0.3771	-1.2479	-0.3769	-0.3436	-1.8030	-0.9920
Std. Error	0.3174	0.9011	0.9208	0.3666	1.1433	1.1654
t-statistic	-1.1881	-1.3848	-0.4093	-0.9372	-1.5770	-0.8512

	TOP 5			TOP 3		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2:	12	12	12	12	12	12
Portfolio Excess Returns	0.0268	0.0698	0.0606	0.0058	0.0211	0.0028
SD (Port. ER)	0.0396	0.1946	0.2039	0.0189	0.0569	0.0176
t-statistic	6.2156	3.3619	2.7756	2.5438	2.9395	1.4422
Prob.	0	0	0	0	0	0
Alpha (Jensen)	0.0245	0.0596	0.0560	0.0059	0.0133	0.0040
Std. Error	0.0049	0.0225	0.0278	0.0056	0.0073	0.0044
t-statistic	5.0000	2.6489	2.0144	1.0536	1.8219	0.9091
Market Risk (Beta)	-0.1087	-2.3660	-1.4197	-0.1182	-1.3177	-0.0716
Std. Error	0.3209	1.6462	1.7506	0.1240	0.4607	0.1306
t-statistic	-0.3387	-1.4372	-0.8110	-0.9532	-2.8602	-0.5482

Table-6

Low-cap	TOP 10			TOP 7		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2:	12	12	12	12	12	12
Portfolio Excess Return	0.0430	0.0915	0.0837	0.0429	0.0730	0.0610
SD (Port. ER)	0.0595	0.2617	0.2486	0.0688	0.1471	0.1462
t-statistic	7.0353	3.2002	3.1583	5.6877	4.4479	3.7875
Prob.	0	0	0	0	0	0
Alpha (Jensen)	0.0466	0.0867	0.0790	0.0429	0.0649	0.0570
Std. Error	0.0071	0.0330	0.0293	0.0097	0.0187	0.0193
t-statistic	6.5634	2.6273	2.6962	4.4227	3.4706	2.9534
Market Risk (Beta)	0.2490	-0.8438	-0.8811	0.1186	-0.8737	-0.7312
Std. Error	0.4906	2.2863	2.1442	0.5852	1.2463	1.2763
t-statistic	0.5075	-0.3691	-0.4109	0.2027	-0.7010	-0.5729
	TOP 5			TOP 3		
Parameter 1: Trigger	1.5	2	2.5	1.5	2	2.5
Parameter 2:	12	12	12	12	12	12
Portfolio Excess Returns	0.0612	0.0958	0.0893	0.0561	0.1196	0.1052
SD (Port. ER)	0.0930	0.2167	0.2219	0.1223	0.4040	0.3945
t-statistic	5.6577	4.0020	3.6677	4.2454	2.7707	2.4743

Prob.	0	0	0	0	0	0
Alpha (Jensen)	0.0574	0.0912	0.0851	0.0559	0.1162	0.1068
Std. Error	0.0131	0.0269	0.0272	0.0175	0.0512	0.0508
t-statistic	4.3817	3.3903	3.1287	3.1943	2.2695	2.1024
Market Risk (Beta)	0.0923	-0.7685	-1.0509	-0.4387	-1.0574	-0.2130
Std. Error	0.8154	1.8838	1.9170	1.0506	3.4940	3.4432
t-statistic	0.1132	-0.4080	-0.5482	-0.4176	-0.3026	-0.0619

All the three categories provided positive and statistically significant results in pair trading strategy at KMI under the different portfolio construction of top 3, 5, 7, and 10. However, the results of systematic risk under different parameterizations are some significant and some are insignificant.

5. Conclusions

This study invested the profitability of top 3, 5, 7, and 10 portfolios in pair trading at KMI-30 index. This is the first study in Pakistan to take this aspect of trading. For pair formation one-year daily data of 10 stocks selected from the three categories: high-cap, mid-cap and low-cap for the period from 2012 to 2019 is used by applying distance methodology.

Different parameterizations were used for trading system algorithm. The algorithm was written in visual Basic. The trading period was consisting of six months after the formation period. The statistical significance was tested by t statistic while risk adjusted returns were tested by Jensen alpha. Positive and significant returns are generated in all the three categories. Further, positive risk adjusted returns are also be observed in all the three categories. The results also validate the market neutrality and mean revision theories.

The policy implication for investors, Islamic fund managers, conventional fund managers, researchers is recommended. Investors and Islamic fund managers, conventional fund managers and portfolio managers can get positive risk adjusted returns while applying pair trading strategies in the mentioned three categories.

On the other hand, the first limitation of this study is that, only three categories are selected under market capitalization. Second limitation is that in this study only one approach is used. So, future research recommendation is that other companies of sharia compliant should be taken with usage of different methodologies as discussed in the literature and specially machine learning models to grasp the real profitability in pair trading strategies.

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CSR Disclosure and Bank's Financial Performance Nexus: Evidence from Pakistan.

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Abstract

Present study is designed to evaluate the nexus between corporate social responsibility (CSR) disclosure and the financial performance of the banking sector in Pakistan. The study applied a quantitative research approach using panel data from a sample of Pakistan's commercial banks over a timeframe from 2009 to 2019. The outcomes of the mixed effect model visualize that there is an inversely significant association between CSR disclosure and ROE. Whereas there is no statistically significant link in the context of short-term financial performance by using a proxy of ROA. The results suggest that the focus on CSR events and initiatives may have a detrimental effect on financial performance. These findings indicate that the adoption of socially responsible investment has not gained significant cultural adhesion in Pakistan. The results emphasize the importance of banks, regulators, and stakeholders reassessing the balance between social responsibility and financial performance, considering the possible negative consequences of revealing CSR initiatives.

Keywords: *ESG Disclosure, Corporate Social Responsibility Disclosure, Financial Performance, Stakeholders Theory, Legitimacy Theory, Sustainability*

1. Introduction

Now a day, with the drawbacks of the industries and their selfishness regarding the social framework and the environment in which they are working, the CSR has become worthy of attention in most of the business operation (Vilanova et al., 2009). It portrays the linked among the corporation and neighborhood as the third force (Snider et al., 2003). A business commitment to implement its monetary assets in its operations to aid and devote to both participants within and outside the organization (Kok et al., 2001). These initiatives are an approach to precisely support sustainability of the society. According to Siueia and Wang (2017), the financial institutions (banks) are essential to a nation's economy, and bank management must act sustainably out of interest for environmental safety as opposed to shareholder's returns maximization concept. The main industries where sustainable initiatives are applicable are those that deal with chemicals, manufacturing, mining, and oil refining. Capitalist are pleased to invest more in sustainable operations, according to Santis et al., (2016), since the embrace CSR practices, have transparent management, stronger governance, and lower risk. CSR tactics are crucial for advancing plans for sustainable gain (Yoon et al., 2018). This suggest that business has another incentive to support sustainability and deliberately report more corporate social responsibility activities.

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A strong and firm CSR strategy improves the sustainable performance when taking into account the association among sustainability and financial efficacy in the banking industry (Goyal et al., 2013). They consider CSR and sustainability as complimentary strategies for improved financial performance (FP). In accord with the perception that sustainable company utilize voluntary CSR disclosure (CSRD) in order to improve the its financial performance. Most of the studies emphasize that there is a strong and positive relationship among the CSR and its disclosure with the financial performance and overall stability of the firms (Celik, 2023; El Khoury et al., 2023a; Laskar and Maji, 2016a; Nasrallah and El Khoury, 2022; Platonova et al., 2018; E. Saygili et al., 2022; Thuy et al., 2021). A study by Celik (2023) The study revealed a positive association among financial performance and sustainability practices. Large firms with better financial performance were more aware of the importance of their social performance. The study emphasis that there is an interconnected link among the sustainable practice and the firm's financial performance. Another current study by Lehenchuk et al. (2023) conducted on sustainability reporting in the Turkish FBT and TCL sectors revealed that there was no statistically significant effect of the overall quality of sustainability reporting on financial performance measures, with the exception of a positive correlation between the Corporate Governance Disclosure Quality Index and the Asset Turnover Ratio. In their study, Santis et al. (2016) employed the sustainability index within the framework of the Triple Bottom Line (TBL) to examine the correlation between financial performance (FP) and sustainability in Brazilian public companies from 2009 to 2013. It was found that the way the company categorizes its sector has a notable influence on the connection between financial performance (FP) and sustainability initiatives.

There are conflicting empirical findings from some researchers who have studied the connection among the CSR activity and the FP in banking sector. They discovered an association among the two determinants that was either negative, positive, or neutral. Greater number of the earlier research have tended to demonstrate positive correlation among the FP and CSR disclosure. There is no agreement on these results, which are inconclusive. Additionally, there was little focus on the sub-continent nations. The countries of the sub-continent (especially Pakistan) are the subject of this essay for the following reasons: there are not many studies that look hoe CSR influence the FP in the financial institutions for the communities with a recent history of these practices, rather than reality that the CSR research is increasingly becoming more common in industrialized or developed nations (Platonova et al., 2018). These earlier findings, as per Esteban-Sanchez et al., (2017), cannot extrapolated various circumstances. The linked among the CSR and the financial efficacy varies beyond the industries type, is not always the same, and is competitive across industries – all of which are crucially important factors that affect this relationship (Javed et al., 2016). As per Porter and Kramer (2007), understanding a company's CSR conduct depends on where it is located.

The current inquiry attempts to review the influence on the corporate effectiveness by the CSR activities limited to financial services institutions of Pakistan. According to research, various theories, i.e. stakeholder, legitimacy and agency theory, all seems to predominate as viable explanations of linked of the corporate social responsibility with financial efficacy (Manrique & Martí-Ballester, 2017). In the next session, which discusses pertinent linked material and speculations, all of these theories are briefly explained. Present inquiry tested the hypothesis using the stakeholder theory and clarifies the connection between these two factors. This idea supports the claim that

socially conscious behavior helps businesses remain competitive. According to Manrique and Martí-Ballester (2017), the competitiveness of firms draws investors who put fresh capital into the business to increase the operations and lower operating expenses, which leads to improve the performance.

The information utilized for the current investigation was obtained from financial records of the banks, their official websites, and the official web page of the central bank of Pakistan. The top 16 banks in Pakistan make up the sample, which spans the years 2009 to 2019. According to Santis et al. (2016), accounting data is believed to be less noisy than the market indicators and reflects what is actually happening within the organization. In this study, FP is measured using ROE and ROA (Esteban-Sanchez et al., 2017). Most of the authors and researchers have a variety of metrics to assess and report on a company's sustainability, but these are less likely to be applicable in emerging and developing markets, i.e. ESG Index, KLD social indicator, integrated reporting initiative (Yoon et al., 2018). In the present investigation, the aspects of CSRD activities were evaluated using content analysis (Branco & Rodrigues, 2006a), using data extracted from the financial statements, bank's CSR reports, their official websites (Platonova et al., 2018).

2. Literature Review

2.1. Financial Performance

Assessment of the financial performance is an extremely mature phenomenon in the finance investigations, but till there is charisma in pursuing further fields of the inquiry, as financial performance is an ever-blooming topic for the consideration for mostly researchers (Abbasi & Malik, 2015). The foremost and fundamental objective of the business activities is to get the maximum value for the stakeholders. There is always a need of overcoming the cost of business activities, also the maximization of the profit for the achievement of the mentioned target. For these businesses must utilize their resources effectively to improve the performance of the business. A financial well-being describes how effectively and efficiently a business can utilize its current and fixed assets to earn optimal profit and value. Mainly the performance is the outcome, achievements and accomplishments of the firm or the organization (K. Kim et al., 2017). Performance is defined as the accomplishment of measurable, substantial, material and the particular and specified goals or objectives. Performance of a firm has specific aspects: material and non-material, short, medium and long-term, aspects of relationship development, financial aspects (Deshpande et al., 1997).

Various material and non-material parameters can be employed to know about the effectiveness of the businesses. The financial and non-financial parameters include organizational growth, sales, and profit of the firm, liquidity, seasonality, leverages, and financial ratios. Corporate reputations, trust, customer and employee's relation, CSR and CSRD. Three categories are involved in order to examine the firm's financial well-being i.e., market, accounting and the survey category of measurement (Orlitzky et al., 2003). They further claim the category involving the market measurement associate with the level of loyalty and satisfaction of stakeholders. Whereas the accounting approach of measurement of financial effectiveness of the business focuses the internal effectiveness and last one linked to subjective measurement of the effectiveness of the businesses. FP of the firm is standardized to be accounting and market based performance (Jadoon & Hafiz Bajuri, 2015). For accounting-based assessment assets 'returns , equity's returns and sales' returns are considered mainly for the purpose

(Waddock & Graves, 1997). There are two mostly admitted accounting-based ratios are selected as the proxies for FP in financial institutions. ROA describes the generation of the profit by the asset of the banks, and most of the time this specific ratio is separated from the biasness. Whereas the ROE describes the amount of bank's profit bring about from the shareholders' investments. Other than these, the annual return on stocks or annualized return is used for non-accounting measurement of the bank financial effectiveness and indicate the evaluation of the market of the specific bank. In non-financial indicators the bank reputation, corporate governance practices, CSR and CSRD are the main concern of the researchers now-a-days. FP is appraised as critical indicator of strategic or long-term worth of the CSR (Orlitzky et al., 2003). Investigators initiated the pragmatic considerations of FP with the CSR and CSR reporting or disclosure, mainly three decades before in developed and industrialized countries. We cannot generalize that developed counties study in the countries like Pakistan, with emerging markets without the concern the differences of two different market types on various issues like corporate environment and governance. Businesses in the developing economies mostly recognized by the fragile governance. So, to realize that the above described positive and strong relation among corporate social responsibility and its disclosure via firm's financial well-being and value prevails in the emerging and fragile corporate governance setup.

2.2. Corporate Social responsibility (CSR) and its Reporting

As per Vilanova et al. (2009) CSR has considered as an essential phenomenon in corporation's activities. CSR describe the bond between the corporation and the stakeholders, i.e. society and the surrounding as third participant (Snider et al., 2003). It is also defined as organizations make public displays of quantifiable as well as qualitative data to inform or persuade different audiences. The numerical or mathematical disclosure may be in financial or non-financial term" (Mathews, 1997). A study by Mook et al. in (2007) defined, "an organized examination of how an organization impacts its stakeholders, including input from stakeholders as part of the data analyzed for financial statements". CSR definitions effectively describe main objective of the CSRD, which inform or report all corporation's particulars and detail, both the financial and non-financial, mainly to communities of interest, such as the stakeholders. As the CSR is mainly the important segment of discussion among firm and its communities of interest, with report employed as tactical device in the management of relation among the corporation and communities of interest. The purpose of CSRD is to increase the reputation of the corporation or business, overcome the corporate responsibility's, and informing the stakeholders (Gray et al. 1995; Zeghal and Ahmed, 1990).

According to Jenkins and Yakovleva (2006) there are various functions of CSRD which combine determine impact of CSR related tasks, examining influence of CSR plan of action or scheme, CSR reports, and subject to reporting and informing system (internal and external) which enable a complete estimation of maximum corporate resources and impact of sustainability. Mainly two basic aims encourage businesses to employ CSR venture and their disclosure. Companies could import the competitive advantages by employ the CSR and its disclosure. Also they realize that having better associations with the stakeholders increase the FP, employee satisfaction, loyalty, and the reputation (Branco & Rodrigues, 2008). These corporations assume that if they not involve in the CSR and CSRD, they will suffer their amount of profitability and the corporate reputation. Both CSR and its disclosure develop the authority device to describe their

environmental, social and governance obligation or responsibility to various stakeholders i.e. shareholders, investors, consumers, employee and the environment mainly, to enhance or control their FP, corporate reputation and their connection or bond with the communities of interest.

According to various researchers, the CSRD consist of the four classes of reporting and informing, i.e. environment, consumer and employee related, general and the community engagement related information and data (Deegan, 2002; El Khoury et al., 2023; Gray et al., 1995; Laskar and Maji, 2016; van der Laan Smith et al., 2005). Most of the corporations, now a day, communicated the CSR related information and data in their financial and special reports to stakeholders, and also available at their official websites too. Environmental reporting and communication are adopted to announce the info about effects of corporation on the material surroundings. A study of van der Laan Smith et al. (2005) encompass environmental reporting to various class of items: Scrap related management, emission stage and status and their prevention, environmental burden estimation, fish-stoking projects and plans, energy conversion projects and the ERMS. The previous mentioned study also includes some items in the environmental disclosure, such as, “environmental financially, environment audit, environment policy, environmental products and processes, sustainability, and energy”. Community engagement related information and disclosure describe the reporting of corporation with respect to the community involved, which incorporate, programs related to education, plant site visitation, assistance of community schools and institutions, culture supports and the game and sports, volunteers’ programs. Also, the charity and donation to education, sports, health and arts and culture counted in the community category (van der Laan Smith et al., 2005).

Clients and staff reporting consist of the information of organizational task and their impact on employee and the consumer, and its comprises of the working atmosphere and setting, no. of employee and their absent rate in work hours, ratio of the minorities and females, employee data and their pension criteria along with data, safety and health offered, gender equality, consumers complaint records and their suitable solutions, stakeholders related rights disclosure, after sales services offered (van der Laan Smith et al., 2005). Corporations always require encouraging the openness and pellucidity about the CSRD in order to uplift the organizational efficacy and performance. Most of the researchers Branco & Rodrigues (2006b), Husted et al. (2006), Husted and Allen (2007), Marom (2006), Mcwilliams and Siegel (2001), Moneva et al. (2007), Toms (2002), Orlitzky et al. (2003), and Wright and Ferris (1997) have initiated to figure out the connection of these activities and disclosure with the effectiveness of organization, and resulted that there is a link among the CSR and its disclosure with the organizational efficacy and performance.

2.3. Performance and the disclosure of CSR activities

As the boom of the organization, in the business world is associated with the actual approach of “Triple Bottom Line (TBL) that is, economic, environment and social issue” (Hussain et al., 2018). The companies should be drive in a sustainable fashion is the core area of the Triple Bottom Line, which will take them to more combative and aggressive with respect to others, for environmentally friendly corporations. By that idea of the triple bottom line, the United Nations rooted initiative of SSE along with the intention mainly to advocate worldwide the development associated with the sustainability. As the strategy of CSR merely associated with the sustainable

development, and organizations which are not linked with the practices related to suitability having minor financial performance as compared to the organizations employ these sort of practices (Ameer and Othman, 2012). Manrique and Martí-Ballester (2017) for the sake of explanation of connection among the corporation social well-being and organization's effectiveness, three main theories are helpful and gives us a broad view, i.e. "Stakeholder, Agency and Legitimacy Theory". As per, Manrique and Martí-Ballester (2017) the first one proposed the corporations which endorse CSR practices merely boost a "competitive advantage" within the market due to the attraction of capitalist and overcome the expenditures. Freeman & Velamuri (2008) who defend stakeholder theory admit that if the foal of the existence of a business firm is taken to mean 'creation of value for stakeholders' and if the stakeholders include employees, community and society, there is no need for any separate CSR effort. Janney and Gove (2011) suggest that businesses can derive benefits from CSR in terms of improved reputation, particularly during major crises or scandals. They contend that businesses with effective CSR are better equipped to safeguard businesses' reputation during crises, thereby minimizing negative impacts on financial performance. This implication extends to times of market-wide crises, where firms with better Corporate Social Performance (CSP) may be perceived less negatively by participants. As per Surroca et al. (2010) stakeholder theory is a vital contact among the CSR and the financial effectiveness, and CSR associated businesses utilize the resources of the organization better effective and this will also positively and efficiently effect the financial well-being. Javed et al. (2016) discusses the agency assumption which describe the presence of "information asymmetry" among various shareholders, and management which can adversely impacted the organization's financial efficacy.

Whereas as per the Esteban-Sanchez et al. (2017) legitimacy theory proposed presence of the "social contract" among businesses and the association of the social circle, and recommend the reporting of the corporate sustainability. Legitimacy approach as by Watson et al. (2002), grounded on assumption as the corporations cue their legitimacy with the reporting of particular info in various reports and statistics. Most of the studies, according to the Y. Kim et al. (2012) spectacle reporting of the CSR actions which create translucence of the information, as the firms are persuaded by the deliberated and volunteer information, enhancing the value of stakeholder and best instrument for the business tasks. Translucence of the information and its accountability both considered as core attributes of socially answerable corporation. As per the study of Bozzolan et al. (2015) the translucency of the company can assist them to overcome asymmetry of information among the stakeholders and the companies' managers. Now a day, Scholtens (2009) the financial institutions i.e. banks, mostly employ extra in the disclosure of CSR in order to boost goodwill and get additional investors. Mainly these reports which are disclosing non-financial matters of the organizations in terms of Economic, social and governance (ESG) (Loh et al., 2017). These sorts of corporations exercised beside the capability in order to convey additional value to concern shareholders and other participants by encouraging the reporting and disclosure of true information (Zang, 2012). Esteban-Sanchez et al. (2017) debate that firms with these sorts of activities produce additional profit and perk in the form of additional investors, competitive advantage in term of cost, increasing goodwill and improve monetary benefits in term of performance.

The question, why the organizations provide the CSR reports is answered by the Mathews, (1997) that there are three reasons for that sort of reporting and disclosure, i.e., to encourage the "Social Contract", boost the "Legitimacy" and build up "economic

or financial performance”. One reason of linked among these disclosure of CSR and the FP appear due to the aggressiveness of firm for providing the impact of going well with the disclosure of respected info that is appropriate and sometime overtakes the expectation of the participants (Brooks and Oikonomou, 2018). Most of the researches such as Bowman (1978), Laskar and Maji (2016), Platonova et al. (2018), Celik (2023), El Khoury et al. (2023), Saygili et al. (2022) describe that there are strong and positive effects of the disclosure of CSR on the effectiveness of the firm.

Kamal and Deegan (2013) examined reporting practices related to societal and environmental authorities. The data sample was drawn from textile and garment corporations operating in Bangladesh. The inquiry revealed findings indicating gaps in the reporting of governance information behind commonly disclosed Corporate Social Responsibility (CSR) practices. To meet public expectations and ensure credibility, Bangladeshi textile and garment businesses reports data regarding their governance. The outcomes underscored the insufficient accountability and transparency concerning community and environmentally related governance practices within the context of an emerging country.

Most of the studies find that there is a positive significant impact of CSRD on the financial performance (Celik, 2023; El Khoury et al., 2023b; Galant and Cadez, 2017; Jan et al., 2019; Laskar and Maji, 2016; Nasrallah and El Khoury, 2022; Nobanee and Ellili, 2016; Platonova et al., 2018; A. T. Saygili et al., 2021; E. Saygili et al., 2022; Thuy et al., 2021; Z. Wang and Sarkis, 2017). However, it is also stated that some of the evidence between the relation or impact among the disclosure of CSR and FP is conflicting, i.e., Ingram and Frazier (1980) reported a negative correlation and Freedman and Jaggi (1982) and Lehenchuk et al. (2023) find no correlation between the above stated two variables. Some of the investigations also show negative association among the CSR reporting and the financial performance, such as Gutiérrez-Ponce and Wibowo (2023), Paulin (2017), Al-Ajmi et al. (2023) and many more. As the mentioned researches belongs to the industrialized countries whose business as well as financial system varying with respect of the developing countries, i.e., Pakistan. We have limited researches on CSR and CSRD and their impact on various factors associated with the firms or corporations and their performance. With the help of current investigation, we want to spotlight on the association of the CSRD and the efficiency of the banks within the context of monetary performance, with the context of Pakistan. So, in lines with the data we have, we assume that, due to the majority of the literature bow towards the significant relationship among the two considered variable,

H1: The CSRD of the firm has significant effect on its FP.

3. Research Methodology

For the sake of finding the association among the CSRD and the FP of the firm, various studies have mostly applied “regression analysis” and used a model having size, market risk and the industry as control variables in the studies (i.e., McWilliams and Siegel (2000)). Another study performed regression analysis to determine effect of CSR on the well-beings of firm for gaming industry (Vong and Wong, 2013). The study of Mahoney and Roberts, (2007) examined the relation among the CSR and organization’s monetary performance measured with the proxy of ROA and ROE, with various control variables, i.e., size, the level of debt and industry (in Canadian perspective). Bank characteristics, organizational factors, and the macroeconomic level factors are also used in study as a control variable (Wu & Shen, 2013).

3.1. Sampling and collecting data

Our sample has 160 observations drawn from the financial reports annually presented by the banks (16 Banks of Pakistan), comprises of ten financial years (2009-2019). As the study focused on the secondary data, which is coming out of the bank's annual and special reports available at their official websites. CSR related information and statistics are mainly extracted from CG reports, director's report, chairman's declaration, and CSR reporting and explanatory notes. The index for the corporate social responsibility disclosure (CSRDI) developed after gathering the related items disclosed in the above mentions reports and statements.

3.2. Data Estimation Model

To examine our assumption, consider the equation (as given below), which relates the performance of the firm (FP) with the CSRDI, while also including some control variables due to their effect on the firm financial effectiveness. As performance is dependent variable with respect to our study and the CSRDI considered as independent variables, while the size, leverage, credit and liquidity risk. So, we actualize the model as

$$\begin{aligned} \text{Financial Performance}_t &= \beta_0 + \beta_1 \text{CSRDI}_{t-1} + \beta_2 \text{Size}_{t-1} + \beta_3 \text{Levaerage}_{t-1} \\ &+ \beta_4 \text{Credit Risk}_{t-1} + \beta_5 \text{GDP}_{t-1} \end{aligned}$$

3.3. Dependent Variable: Financial Performance

According to the Laskar & Maji (2016), and Platonova et al. (2018) for measurement of firm performance most of investigations employed, Tobin's Q, Assets' returns and Equity's returns. Various proxies were employed by the researchers in past investigations, i.e., Oyewumi et al. (2018) used return on asset as a liaison to firm performance, whereas Iqbal et al. (2012), Torugsa et al. (2012), Marte Uadiale and Fagbemi (2012), Cavaco and Crifo (2014), and Nobanee & Ellili (2016) used Assets' returns, Equity's returns and earning per shares as the proxy to FP, whereas Net Present value by Flammer (2013).

Researchers use different proxies such as Assets' returns, Equity's returns and TOBIN Q to measure financial performance. Some of them listed below.

Table 1 Proxies used for Measurement of Financial Performance from Previous Literature

Authors	ROA	ROE	TOBIN Q
Brown and Caylor (2009)	Yes		Yes
Sami et al. (2011)	Yes		Yes
Bermig and Frick (2010)		Yes	Yes
Guest (2009)	Yes		Yes
Tian and Twite (2010)	Yes		Yes

Chan et al. (2017)	Yes	Yes	
Laskar and Maji (2016)	Yes	Yes	Yes
Platonova et al. (2018)	Yes	Yes	Yes
Cavaco and Crifo (2014)	Yes	Yes	
Iqbal et al. (2012)	Yes	Yes	
Marte Uadiale and Fagbemi (2012)	Yes	Yes	
Nobanee and Ellili (2016)	Yes	Yes	

3.4. Independent Variables: Explanatory and Control

Two types of the parameters in the category of regressors, i.e., explanatory variable and the control variable. Explanatory variable CSRD which equates the CSR activities. Some prior research employed various dimension of the ESG activities, but with the context of Pakistan or other developing countries, we will employ only four dimensions, i.e., “employee relations, community involvement, product and environmental”. We use size, leverages, and credit and liquidity risk as a controlled variable to our study. Size, the critical variable due to its impact on CSR and FP, as the large size companies employ more CSR with respect to the small ones (Tsoutsoura, 2004). As per the studies of El Ghoul et al. (2011), Goss and Roberts (2011), and Oyewumi et al. (2018) Size is quantified as, “log of the total assets” or accord to Klapper and Love (2004), Deng et al. (2013), and Wang and Choi (2013), size is measured as, “annual sales’ natural logarithm. Stulz (1990), and Jensen (n.d.) as the high debt can impact the behavior of the management and also the potential of CSR and its disclosure and the performance too, so considered as a control variable in the investigation. It can be quantified as “ratio of total debt to total assets” (Bhagat and Bolton, 2008; Brammer et al. 2006; Lanis and Richardson, 2012). “Credit risk is likelihood that a borrower or lender will not fulfil its liabilities as per the conditions. Credit risk management aims to optimize a bank's risk-adjusted rate of return by maintaining credit unveiling with reasonable boundaries (for International Settlements, n.d.)”.

There are several ways to gauge CSR disclosure; however, this study employs the result of a content analysis methodology (Dumitru et al., 2016). As per Branco and Rodrigues (2006a) the method is used because of its non-financial characteristics, content analysis provides a trustworthy proximate for the measurement of CSRD notwithstanding the subjectivity of CSR initiatives. Prior studies contend that the method (content analysis) is superior method for processing, analyzing, examining, interpreting, classifying, and dividing content data into frequently to determine the CSR disclosure activity score. The four subject of CSR activities are, “ecological responsibility, customer and product, volunteering, and employment conduct” considered with reference to this methodology Branco and Rodrigues (2006b). The entire number of statements for each bank were gathered and processed for this study in accordance with the particular category of CSR disclosure.

We can codify or symbolized our text or content with the help of content analysis (Weber, 1990). We developed a CSRDI Index (CSRDI) by gathering various items related to CSR from the categories, i.e., environment, employee, social, product and service – related disclosure as per the studies of Khan et al. (2019), JAHID et al. (2020)

in current study. Current index was created using the score of “1” for the companies or businesses that report CSR-related information and “0” for those who do not.

$$CSR\ Index = \sum_{i=0}^n xi \quad \text{where } n = 1,2,3,4,5,\dots\dots\dots$$

Where $x = 1$ if firm disclose the considered item.

And $x = 0$ if the firm not disclose the considered item.

4. Results of the Study

4.1. Summary of the data employed

Table 2 Descriptive Analysis of the Data

Parameter	Mean	Std. Dev	Min	Max
ROA	.7770833	1.238747	-5.41	3.06
ROE	2.153385	111.5302	-1474.27	234.71
CSRD	.7107813	.1216032	.5	.94
CR.	11.60422	8.065231	.001	51.56
Size	2.074987	.2702395	1.52388	2.76001
Leverage	.082415	.0861469	.0023131	.9694819
GDP	3.485893	1.922014	-1.274087	6.151703

Table 2 displays a snapshot of the central of distribution, spread, and range of each of parameters in the dataset, giving us a sense of the distribution of each variable and how they compare to each other. Study used 192 observations of 16 schedule banks of Pakistan.

4.2. The variance inflation factor

Table 3 Variance Inflation Factor

Construct	VIF	1/VIF
CR	1.21	.763656
SIZE	1.10	.899023
Leverage	1.02	.947131
CSRD	1.31	.748143
GDP	1.05	.945225
Mean VIF	1.13	

Table 3 displays the Variance Inflation Factor (VIF) values. The problem of multicollinearity is assessed by Variance Inflation Factor (VIF). VIF scores being less than 10 indicate that there is no problem of multicollinearity in the model.

Construct	ROA	ROE	CR	SIZE	Leverage	CSRD	GDP
ROA	1.000						
ROE	.4497	1.000					
CR	-.3840	-.2373	1.000				
SIZE	.2106	.1458	-.0755	1.000			
Leverage	-.1859	-.7134	.0960	-.1907	1.000		
CSRD	.0648	.0824	-.4471	-.1275	-.0867	1.000	
GDP	.0867	.0465	-.0874	-.1351	.0055	-.0753	1.000

4.3. The Correlation Coefficient Table

Table 4 Correlation Coefficient

Significant at the 0.05 level.

The table above represents the correlation coefficient values for each variable, which shows potential relationship among the parameters. Outcomes shows that CSRD, SIZE and GDP has significant direct linked with ROA and ROE, whereas there is a negative link among the CR and Leverage with ROA and ROE.

4.4. White test for Heteroscedasticity

Table 5 White test for Heteroscedasticity

	chi2	Df	p
Heteroscedasticity	26.83	29	0.6107

The study applied the White test to gauge the presence of Heteroscedasticity. The results indicated that significance value exceeded 0.05, indicating that Heteroscedasticity is not an issue in the framework.

4.5. Fixed effect model for ROA

Table 6 Fixed Effect Model for ROA

Parameters	Coefficient	Z-statistics	P> z
CSRD	-.8740171	-1.18	0.231
CR	.0125852	-2.81	0.005
SIZE	-.0103387	-0.03	0.976

Leverage	-2.936833	-3.27	0.001
GDP	.0395441	1.18	0.239
_cons	1.940529	1.83	0.067
“Dependent variable: ROA (Proxy of Short-term Financial Performance)”			

chi2 = 5.89 **Prob > chi2**
= 0.0004

Hausman test: $X^2= 41.43$ Prob = 0.0000

Table 6 displays the outcome of fixed effect model for ROA. Investigation used Hausman test to opt ideally suited framework for this research. In line with Hausman test output investigation consider fixed effect model. This table reports coefficients, z-statistics, and p-scales reported for each independent variable (CSR, SIZE, Leverage, and GDP), where the dependent variable is ROA (a proxy for short-term financial performance).

In this table, we can see that the independent variable CSR is negatively related to ROA (coefficient = -.8740171), meaning that boost in CSR is associated with decline in ROA. Still, the association is not statistically significant, as represented by boosted p-scale (0.231).

Similarly, the independent variables SIZE and Leverage are negatively related to ROA (coefficient = -.0103387 and -2.936833 respectively), meaning that an elevation in CR and Leverage is associated with a decline in ROE. But the connection of SIZE is not statistically significant, as represented by high p-value. Whereas relationship of Leverage is statistically significant as represented by the dropped p-scale (0.001). On the other hand, independent variable CR and macro variable GDP both are positively related to ROA (coefficient = .0125852 and .0395441 respectively), meaning that an increase in CR and GDP is associated with an increase in assets' returns. But relationship of GDP is not statistically significant, as indicated by the high p-scale. Whereas the relationship of CR is statistically significant as indicated by the lowered p-value (0.005).

4.6. Fixed effect model for ROE

Table 7 Fixed Effect Model for ROE

Parameters	Coefficient	t-statistics	P > t
CSR	-139.3209	-2.25	0.026
CR	-3.95649	-3.58	0.000
SIZE	33.98113	1.12	0.263
Leverage	-1169.701	-15.36	0.000
GDP	1.478815	0.53	0.595

_cons	170.6145	1.91	0.057
“Dependent variable: ROE (Proxy of Long-term Financial Performance)”			

chi2 = 3.02 **Prob > chi2**
= 0.0000

Hausman test: $X^2 = 49.02$ Prob = 0.0000

Table 7 displays the outcomes of fixed effect model for ROE. Investigation used Hausman test to opt appropriate framework. In the accordance with Hausman test outcomes we employed fixed effect framework for the current investigation. These are the outcomes of a multiple regression analysis, where the predicted parameter is ROE (proxy for long-term financial performance) and the regressors are CSR, CR, SIZE, Leverage, and GDP. Coefficients, t-statistics, and p-values are reported for each independent variable.

In this table, we can see that the independent variable CSR is negatively related to ROE (coefficient = -139.3209), meaning that an increase in CSR is linked with a decrease in ROE. The connection is statistically significant due to the low p-value of 0.026.

Similarly, these independent variables CR and Leverage are negatively related to ROE (coefficient = -3.95649 and -1169.701 respectively), meaning that boost in CR and Leverage is associated with a decline in ROE. The relationship is statistically significant, as represented by the lowered p-scale of 0.000. On the other hand, independent variable SIZE and macro variable GDP both are positively related to ROE (coefficient = 33.98113 and 1.478815 respectively), meaning that an elevate in SIZE and GDP is related with a boost in ROE. But, association is not statistically significant, as indicated by the elevated p-scale (.263 and .595).

5. Discussion

The results of the research are in the line with the previous literature as most of the studies claims that there is negative association of the CSR and its disclosure with the financial performance and effectiveness of the firms. The outcomes of the current research also show the negative association among the CSR and the FP. Most of the studies i.e. (Al-Ajmi et al., 2023; Gutiérrez-Ponce & Wibowo, 2023; Ingram & Frazier, 1980; A. Paulin, 2017) shows that there is an inverse relationship between the CSR and FP. Which describe that most of the time the CSR and its reporting inversely affect the financial performance due to various reasons. In developing countries like Pakistan, incorporating corporate social responsibility (CSR) decisions in financial services sector can have various effects on organizational performance. Financial investments in CSR initiatives and changes in strategic focus can significantly impact the operational functions of banking institutions. An analysis of connection among CSR involvement and financial outcomes in Pakistan's banking industry reveals detailed insights.

A possible rationale for perceived shortcoming of a clear positive connection among corporate social responsibility efforts and financial effectiveness indicators in Pakistani banking sector is the early stage of socially responsible investing practices. The lack of development of SRI frameworks in Pakistan may be a crucial factor influencing the current situation. The lack of a deeply rooted culture of responsible investment behavior

in the Pakistani financial environment may hinder the alignment of CSR efforts with financial results in the financial services sector. In the past, CSR has demonstrated outstanding prolonged benefits (Lin et al., 2009). It is overall acknowledged that CSR offers numerous non-financial benefits, such as enhancing internet community campaigns and luring ethical investors from both domestic and foreign markets. A regrettable epilogue is that there is little evidence of financial benefit from CSR engagement in Bangladesh's banking industry. When it comes to CSR activity, banks appear to be more affected by social indicators than by financial soundness. The objective should be situation-based CSR awareness rather than a "one size fits all" concept. Bangladeshi banks should achieve a balance without compromising their social responsibilities or their return on investment (JAHID et al., 2020). Many businesses have management that genuinely works to do business while promoting social and environmental wellbeing (Vogel, 2005). Managers can adjust rules to support a social and charitable work ethic on an individual basis (Hemingway and Maclagan, 2004).

Additionally, researches have shown that customer perceptions of CSR have a favorable effect on client civic conduct (Hur et al., 2018; Swaen et al., 2008). These perceptions can increase consumer trust and give banks a competitive edge as time goes on and CSR becomes more widely known.

6. Conclusion

The research aims to evaluate the nexus among the corporate social responsibility (CSR) disclosure and financial performance (FP) of banking industry in Pakistan. This investigation applies a quantitative research approach using panel data from a sample of Pakistan's commercial banking institutions over timeframe from 2009 to 2019 and used mixed effect model to analyze the collected data. CSRD index (CSRDI) is developed with the help of content analysis and then by PCA to develop it. Financial performance of the banks is measured by two proxies, ROA and ROE, for short run and long run perspective respectively. Some of the control variables are also used by the study, i.e. CR, Size, Leverage and the macroeconomic control variable GDP. The result of the mixed effect model shows that there is negative association among the CSRD and the financial performance, being measured by ROA and ROE, while there is no statistically significant relationship among the CSRD and ROA. While the impact of CR and Leverage is statistically significant and negative with both ROA and ROE. Size has no significant effect on both of proxies used in the study. GDP has positive but non-significant impact on ROA and ROE in the context of Pakistan's banking industry.

Additionally, several other studies have indicated that there is no statistically significant linked among the assets' returns, which serves as a liaison for short-term financial performance, and investments and disclosures related to corporate social responsibility (CSR). The inquiry taken by Lin et al. (2009) found no statistically significant linked among assets' returns and Corporate Social Responsibility (CSR) funding in major industrial corporations in Taiwan. Suggesting no discernible linked among CSR activities and financial effectiveness in the short-term. Their inquiry concluded that better corporate social responsibility (CSR) actions do not necessarily result in an immediate increase in profit of organization (Lin et al., 2009). Kang et al. (2010) discovered that there was no significant correlation among corporate social responsibility (CSR) and assets' returns (ROA) in three out of four industries within the hospitality sector. The airline industry experienced a detrimental impact on profitability

due to corporate social responsibility (Kang et al., 2010). Pelozo and Papania (2008) suggested that the monetary impacts of different aspects of corporate social responsibility (CSR) may vary across industries. Murray and Vogel (1997) research findings indicate that corporate social responsibility (CSR) initiatives do not yield immediate financial benefits. The immediate, tangible effect of corporate social responsibility (CSR) on financial profits is mostly lacking, as stated by Murray and Vogel (1997).

In the context of long-terms payoffs, there is negative but statistically significant relationship among ROE and CSRD in current context. Prior studies also show various results for various industries in various context. The empirical results shown that the relationships of CSR, CSRI and CSRD with CFP can be direct, inverse or neutral (Bird et al., 2007; Griffin and Mahon, 1997; Igalens and Gond, 2005; Zhao and Murrell, 2016 and many more). A study by Bruna and Lahouel (2022) resulted that there is a significant but negative linked among the CSR and financial performance. Different studies resulted an inverse correlation among the CSR and CSRD with financial performance (i.e. Ingram and Frazier (1980) and) or no relationship (i.e. Freedman and Jaggi (1982) and (Lehenchuk et al., 2023)).

According to Stakeholder Theory (R. E. E. Freeman and McVea, 2001), corporate disclosure is used as a tool to bring up informational necessities of various influential stakeholder classes. Competing hypotheses in theoretical literature have been formulated regarding the impact of Corporate Social Responsibility (CSR) on the performance of businesses. The first one is “social impact hypothesis” and other is the “shifting of focus view”. Whereas first argument asserts that Corporate Social Responsibility (CSR) has a beneficial impact on the performance of companies, second argument proposes contrary viewpoint. The positive correlation among corporate social responsibility (CSR) and firm performance can be attributed to three channels as proposed by the social impact hypothesis. These factors contribute to the improvement of employee productivity: creating a more favorable working environment (TURBAN and GREENING, 1997), enhancing operational expertise to increase organizational effectiveness (Orlitzky et al., 2003), and boosting social reputation, trust (Bowman, 1978), brand image, and product competitiveness (Porter and Linde, 1995). Modern Stakeholder theory argues that the firm's value is evaluated by both explicit and implicit claims' costs. From this perspective, the group of individuals or entities that have legitimate rights to the firm's assets extends surpassing owners and debtors. It includes stakeholders with clear claims on the firm, like wage contracts, and those with whom the firm has implied agreements, such as commitments to provide quality service and fulfill social responsibilities (Mitchell et al., 1997).

7. Implications

This paper is making a significant contribution to the existing body of literature. Initially the significance of CSR and its disclosure in the context of Pakistan's banking sector is demonstrated by this study. This study exhibits the association of CSRD and FP, which leads to the proper decision making in both social and financial context. Results of the study shows that there is need of focusing the promotion of the CSR activities and ethical investment standards.

Understanding the connection among CSR engagement and financial performance requires a detailed understanding of contextual factors. Lack of proactive efforts to promote socially responsible investment strategies in Pakistan highlights the need for

specific interventions to encourage a culture of sustainable finance. Efforts focused on increasing awareness, promoting ethical investment standards, and establishing responsible investment practices show potential in adjusting the direction of CSR initiatives compared to financial performance standards in Pakistan's banking sector.

The research suggests that there exists an inverse relationship between CSR disclosure and financial performance, particularly in terms of return on equity (ROE). This implies that banking institutions in Pakistan need to carefully consider the trade-offs between CSR activities and financial outcomes when making strategic decisions. Given the lack of a significant correlation between CSR disclosure and short-term financial performance, banks may need to reassess their priorities and strategies regarding CSR initiatives. This entails a deeper understanding of how CSR efforts align with long-term sustainability goals while balancing immediate financial objectives. Also, the limited cultural traction for socially responsible investment in Pakistan suggests a need for a broader cultural shift towards embracing CSR practices. This could involve educational initiatives, awareness campaigns, and advocacy efforts to promote the importance of CSR among stakeholders. The study underscores the importance of involving various stakeholders, including banks, regulators, and community representatives, in discussions about the balance between social responsibility and financial performance. Collaborative efforts can lead to more informed decision-making and better outcomes for all parties involved.

8. Limitations

As the study aims to investigate the impact of the CSR Disclosure on the banks financial performance in the context of Pakistan. The study successfully gets the results within the limit of the research. But there are some limitations within the study due to various factors, i.e. lack of the data available for the study, the time frame, the data dispersion due to the Covid-19 era and many more.

Despite extensive efforts, there is always room for further research. The study has some limitations. Initially, we conducted the study solely within the context of Pakistan. The study exclusively considers the financial sector. There is a limitation in the model specification in terms of not including all possible elements regarding sustainability practices disclosure. We have only measured the financial performance using ROA and ROE, leaving out other proxies such as Tobin Q, EPS and NPV etc. Due to time and data limitations, this study does not consider non-schedule banks or microfinance institutions. There are also a number of variables and elements that affect the banks' financial performance and risk-taking. This study conducts its analysis within a limited timeframe.

9. Future Recommendations

Future research can delve deeper into the dynamics of this relationship by conducting longitudinal studies that track the impact of CSR initiatives and their reporting on financial performance over an extended period. This would help validate the findings of the current study and uncover any evolving trends or patterns. Also, the researchers can use various proxies of financial performance other than those already used in the

current study. Supplementing quantitative analysis with qualitative research methods, such as interviews and focus groups, can offer a more nuanced understanding of the cultural factors influencing CSR adoption in Pakistan. Qualitative insights can enrich the interpretation of quantitative findings and provide context-specific recommendations. In addition, one can use the non-financial sector to describe the relationship in a context other than the financial sector or banks. Encouraging collaboration between academia and industry stakeholders can facilitate knowledge sharing and the co-creation of best practices in CSR implementation. Joint research projects, workshops, and industry forums can serve as platforms for exchanging ideas and experience. Policymakers should consider the findings of this study when designing regulations and incentives related to CSR disclosure and performance measurement. Policies that strike a balance between encouraging social responsibility and safeguarding financial viability can foster sustainable development in the banking sector.

Author Contribution: I managed every facet of the study, from conception to data analysis, to guarantee a thorough investigation of the relationship between CSR and Pakistani banks' financial performance.

Data Availability Statement: The dataset utilized in this study is available upon request under special circumstances, ensuring confidentiality and compliance with ethical standards. Please contact the author for further information.

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Corporate Social Responsibility's Hidden Power in Context of Pakistan: Amplifying Firm Performance

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Abstract

This research explores the impact of Corporate Social Responsibility on the performance of firms listed on the Pakistan Stock Exchange in the cement and sugar industries. This link is examined using panel data derived from financial reports from 2013 to 2022. The study includes generally used performance indicators, such as Return on Assets, Return on Equity, and Earnings per Share, by previous literature. The corporate social responsibility data is collected from information released by firms about philanthropic activities, charity, and R&D projects. The study also takes into account other financial and control variables such as firm size, firm age, and leverage and incorporates stakeholder theory. The random sampling approach is used to collect a sample of 28 non-financial listed firms. Several statistical tests are used in the study, including panel data technique, correlation, random effect, and fixed effect models. According to the findings of this study, corporate social responsibility has a significant impact on firm performance. These findings are consistent with previous research done in developing nations and are relevant for Pakistani firms operating in different economic environments than their developed countries. The result is aligned with stakeholder theory. This study provides significant insights for organizations and regulatory agencies. Furthermore, the paper makes suggestions for future research, such as the assessment of context variables such as ownership structure, the consideration of other periods, and the investigation of other industrial sectors.

Keywords: *Corporate Social Responsibility, Firm Performance, Non-Financial Firms, Panel Data, Pakistan.*

JEL Code:

1. Introduction

Nowadays, many organizations conduct Corporate Social Responsibility (CSR) related activities, but their expenditure on CSR practices does not receive adequate acknowledgment, possibly due to a weak reporting process (Khan et al. 2020; Farooq

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et al. 2023). Initiatives related to CSR, on the other hand, assist organizations in gaining a competitive edge and building a favorable reputation. CSR activities, according to Weber (2008), go above and beyond to help organizations preserve their operating licenses, decrease risks, obtain tax breaks, and deliver benefits in the form of efficiency gains. CSR initiatives are now obligatory in a lot of countries. Under a special clause in the Companies Act 2013, businesses are obligated to engage in CSR initiatives. CSR motivates organizations to engage in more economic, social, and environmental activities, which generates and preserves consumer trust. These activities, in turn, influence the economic fate of the county (Damato et al. 2009).

CSR and its connections are largely studied in the developed world (Bagh, et al. 2017; Farooq et al. 2024). In underdeveloped countries, the statistical relationship between CSR and FP has received less attention (Pradhan & Nibedita, 2021). For developing nations, the literature finds inconclusive, inconsistent findings (Ahmad et al. 2020; Blasi et al. 2018; Riyadh et al. 2019; Scholtens, 2008).

CSR practices in the developed world now differ significantly from those in the developing world. CSR practices proposed by developing-country governments are seldom put into action. Businesses have economic challenges while engaging in CSR initiatives on the both global and local levels (Bagh et al. 2017). Inadequate governance, natural disasters, weak and unethical institutional policies, and poor internal administrative regulation are among the challenges. CSR work becomes extremely difficult in these circumstances (Jamali & Mirshak, 2007; Javeed & Lefen, 2019). Many Pakistani corporations, on the other hand, participate in a variety of social, philanthropic, environmental, and other CSR initiatives.

The relationship between CSR and FP has been extensively researched in the literature. However, literature studies vary, indicating an equivocal association between CSR and FP that requires additional exploration (Blasi et al. 2018). According to the literature, the majority of studies on the aforementioned link are done in the developed world (Bagh et al. 2017). There has been little relationship research between CSR and FP in developing countries (Gulzar et al. 2019). Because of the lack of or incomplete work on CSR with comprehensive findings in Pakistan. The existing study intends to investigate the relationship between CSR practices and FP using data from the cement and sugar sectors were chosen for this study because they contribute the most to the country's gross domestic product (GDP). According to the Pakistan Economic Survey 2021-2022, the cement sector contributes 1.04% to GDP while the sugar industry contributes up to 2.9%. These industries have an influence on the environment and society, for example. i. The cement industry emits a substantial amount of CO₂, which contributes to air pollution and climate change. Furthermore, limestone mining and quarrying can result in habitat damage and landscape changes. ii. Sugar production may cause environmental problems, such as water contamination from sugar mill effluent discharge. Sugarcane growing frequently necessitates large amounts of water, which can contribute to water scarcity in some areas. Furthermore, sugar farming may require the use of pesticides and herbicides, which can have an impact on soil and water quality. iii. Cement manufacture may be resource-intensive, resulting in dust and air pollution in adjacent towns. Land acquisition and compensation for impacted communities may

also be contested. iv. The sector has been chastised for concerns such as late payments to sugarcane farmers, which can have a severe socioeconomic impact on these stakeholders. As a result, there has been an increasing emphasis on CSR in both industries, with stakeholders expecting corporations to address environmental and social problems and positively contribute to society's and the environment's well-being. These actions have an impact on their FP.

To fill a gap in previous research, the existing study examines the influence of CSR on FP. The study examines this link from two unique perspectives. The first position, known as the shareholder expenditure perspective, contends that CSR participation diverts resources away from the primary purpose of maximizing shareholder profits, potentially leading to a fall in FP (Cronqvist & Yu, 2017; Masulis and Reza, 2015). The stakeholder view, on the other hand, argues for CSR participation and predicts that it will improve FP (Servaes and Tamayo, 2013; Lins et al., 2017; Bae et al., 2018). Stakeholder theory also supports this argument. CSR creates a positive image of firms among stakeholders which ultimately enhances performance. Both opinions are valid, and actual data is needed to decide which position has greater clout in the local setting. Based on observations of 280 firm-year data from 2013 to 2022, our study finds that CSR participation has a favorable influence on FP. As a result, the stakeholder perspective that regards CSR participation as positive for improving FP is stronger. Furthermore, our data show that enterprises involved in international trade improve the relationship between CSR and FP. The current literature is added to this study in different ways. Firstly, it offers new realistic data on the possible relationship between CSR and FP, finding a strong positive association, indicating that successful CSR activities can reduce the chance of failure and improve FP. These findings also lend credence to the notion that CSR donations help organizations maintain their FP (Godfrey et al. 2009; Noor et al. 2020).

The next portion of the paper offers a theoretical assessment of the CSR paradigm as well as empirical arguments. The third component contains information on data and sample selection. In the fourth section, the empirical results are presented in greater depth. Finally, the last section analyses limits and concludes with both practical and theoretical implications.

2. Literature Review

2.1. Corporate Social Responsibility in Pakistan

CSR is most commonly linked to the Western world, which has well-defined standards and laws, mature capital markets, effective corporate governance procedures, and strong shareholder rights protection. In contrast, rising Asian nations, like Pakistan, confront substantial barriers to implementing CSR, such as insufficient legislation, concentrated ownership structures, and weak corporate governance frameworks. Despite substantial talks on CSR over the past many years, real implementation in Pakistan has seen modest development. There are a few firms that display ethical behavior by investing their earnings in social well-being through CSR projects, such as Pakistan State Oil, Shell, Unilever, and ICI. Two major elements are responsible for

Pakistan's current status of CSR. To begin with, the general public's lack of knowledge and education about their rights and obligations stymies development. Second, the lack of well-defined CSR legislation and regulations causes corporations to disregard CSR in strategic decision-making. In response, the Securities and Exchange Commission of Pakistan (SECP) has made efforts to address this issue by directing corporations to disclose a piece of information in their financial statements about 'donations' following the Corporations Ordinance 1984, Part III, E-1 of Schedule 4. SECP has also implemented the Employees Welfare Fund Ordinance (WWF) 1971, which requires businesses to participate in employee welfare programs and report on them in their annual reports. Furthermore, various regulatory bodies have introduced legislation aimed at promoting CSR practices in Pakistan, including the introduction of IAS 19 by ICAP, the Pakistan Environment Protection Act by the National Environment Quality Standard Board, the ACCA-WWF Pakistan Environment Reporting Awards by the Ministry of Environment, and SECP's General Order of 2009, which requires firms to disclose their CSR activities. Furthermore, in 2013, SECP released CSR Voluntary Guidelines to improve organizational accountability. CSR is steadily growing in Pakistan's corporate sector due to the joint efforts of the government, regulatory organizations, corporations, and academic experts. Nevertheless, developing a complete CSR framework within organizations remains a tough issue.

2.2. The Theoretical Approaches of Corporate Social Responsibility and Firm Performance

In previous studies several theories are used; however, we will focus on stakeholder theory because it is the most relevant to our study. To explain the relationship between CSR and FP, the firm's supply and demand theory, the social effect hypothesis, and the theory of contemporary corporate stakeholders may all be used (Noor et al. 2020).

The major societal duty of a corporation, according to Friedman's (1970) trade-off hypothesis, is to enhance its FP. According to this opinion, participation in CSR activities incurs additional costs that lower a company's profitability, putting it at a competitive disadvantage. As a result, CSR is adversely connected to FP (Moore, 2001). The stakeholder approach increases the link between CSR and FP by focusing on stakeholders (Barnett, 2007; Jones, 1995). Some stakeholders, such as shareholders, workers, and the government, have explicit claims on a company's resources, but others have implicit rights, such as customer, supplier, and employee expectations of supply continuity, timely delivery, workplace safety, and improving product quality. The price that stakeholders must pay for these claims is influenced by the company's standing, particularly its financial practices.

2.3. Review of Corporate Social Responsibility

Academics have discussed the topic of CSR for more than a century, yet a single, all-encompassing explanation of CSR has remained elusive (Jackson & Hawker, 2001). Companies must not only define CSR but also understand its contextual variations (Dahlsrud, 2008). CSR scholarship has changed throughout time to reflect the field's

multifaceted and dynamic character. Rather than aiming to build a broad CSR definition, it is more practical to develop context-specific, historical, practical, and philosophical definitions that match an organization's responsiveness and aims (van Marrewijk, 2003). It should be noted that if CSR expenditures are not related to economic goals, they may be a burden for businesses (Lin et al. 2009). Benabou and Tirole (2010) presented three perspectives on CSR: (i) Win-Win, which emphasizes long-term profit growth and societal benefits; (ii) Delegated philanthropy, which entails philanthropic efforts happening on behalf of stakeholders; and (iii) Insider-initiated corporate philanthropy, which involves supporting charities, institutions, and think tanks favored or chaired by top management.

The academic roots of CSR can be traced back to Sheldon's (1924) pioneering work, which broadly defined CSR as voluntary participation in environmental and social initiatives. Since then, a plethora of studies have investigated CSR from diverse perspectives. Dahlsrud (2008) studied CSR definitions extensively from 1980 to 2003, establishing five key dimensions: environmental, social, economic, stakeholder, and volunteer.

Furthermore, Ehsan et al. (2019) argued that CSR evaluation may be divided into two frequently used methods: the "reputation index" and the "multidimensional approach." The reputation index assesses corporations based on their social involvement, whereas the multidimensional method assesses companies based on content analysis, such as contributions, charity, worker welfare funds, and environmental research and development as revealed in documents such as annual reports.

Matten and Moon (2008) also distinguished between explicit and implicit CSR. Explicit CSR emphasizes a company's obligation to contribute to social well-being, whereas implicit CSR entails non-voluntary behaviors motivated by a reciprocal connection with the corporate environment. It is crucial to emphasize that CSR and firm sustainability are not the same thing. While CSR focuses on the interactions of people and organizations, sustainability focuses on the concept of agency (van Marrewijk, 2003). The most effective CSR practices prioritize measurable outcomes and regular progress monitoring (Porter & Kramer, 2006).

2.4. Corporate Social Responsibility and Firm Performance

According to stakeholders, CSR has positive external effects that improve an FP. Kempf and Osthoff (2007) discovered that investing in portfolios with a high CSR concentration resulted in abnormally high returns using the 'Carhart four-factor model,' which incorporates positive and negative filters. While the return on investment varies depending on the CSR method, CSR involvement often leads to significant stock returns and minimizes financial risk (Blasi et al., 2018).

However, some studies have shown a link between CSR and FP (Lin et al. 2019; Hirigoyen & Rehm, 2015; Makni et al. 2009; Hsiao et al. 2024) . The fundamental explanation for this negative correlation is that when firms participate in socially responsible activities, greater social expenditures may impede attempts to maximize profits. Nonetheless, proponents of CSR, such as Kempf and Osthoff (2007) , contend

that contrary to popular belief, socially responsible investment, which includes characteristics such as community participation, diversity, employee relations, human rights, and environmental responsibility, has no negative impact on performance. Furthermore, a firm's available cash resources and donations have a positive relationship, some scholars suggest that corporate philanthropy has little relevance to financial success (Nelling & Webb, 2009; Seifert et al. 2003; Ur-Rehman et al. 2024). Furthermore, Lougee and Wallace (2008) discovered that CSR investment has a positive impact on long-term profitability, with a circular causation pattern in which profitable organizations are more likely to engage in CSR efforts at first, and then see improved performance as a result of these investments. The disparity in this research might be related to discrepancies in selection bias, measurement techniques, or sample limits (Galant & Cadez, 2017). The link between CSR and FP is influenced by a variety of economic and institutional elements. This connection differs depending on the country, economic structure, and industry sector. In general, a company's commitment to CSR practices increases its FP. In Turkey, return on assets (ROA) and return on equity (ROE) have minimal impact on CSR. The relationship between CSR and net interest margin (NIM) is bidirectional, with larger NIMs possible to support CSR operations (Taskin, 2015). Wu and Shen (2013) observed that CSR showed a positive association with ROA, ROE, net interest income, and non-interest revenue on a global scale, but a negative correlation with non-performing loans. Notably, industrialized nations have a significant association between CSR and profitability due to robust investor protection and stakeholder focus (Belasri et al. 2020). This may not be true for emerging economies, which have different economic systems than industrialized ones (Blowfield & Frynas, 2005).

2.5. Problem Statement

Two school of thoughts exists about CSR. One is CSR is expenditure (Cronqvist & Yu, 2017; Masulis and Reza, 2015) and second is CSR creates a positive image of firms and enhances FP. For this Cement and Sugar sector is important because these industries emits a substantial amount of CO₂, which contributes to air pollution and climate change which effects on reputation of firms.

2.6. Research Objectives

On the basis prior studies research objectives of this study are following.

- 1) To investigate the impact of corporate social responsibility on Return on Assets in Cement and Sugar sector of Pakistan.
- 2) To check the impact of corporate social responsibility on return on equity especially in non-financial sector (cement and sugar industry) of Pakistan.
- 3) To check the impact of corporate social responsibility on earning per share Pakistani Cement and Sugar firms.

2.7. Research Hypotheses

On the basis of literature we formulated following hypotheses.

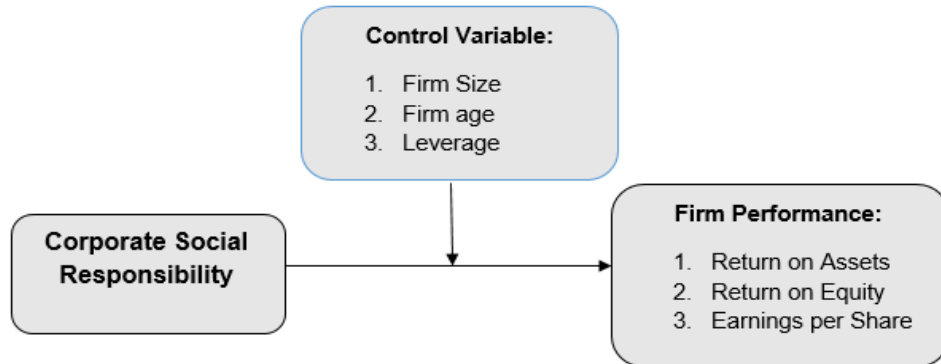
H1: Corporate Social Responsibility practices positively and significantly affect Return on Assets.

H2: Corporate Social Responsibility practices positively and significantly affect Return on Equity.

H3: Corporate Social Responsibility practices positively and significantly affect Earnings per Share.

2.8. Conceptual Framework

The conceptual framework of this study is given below.



3. Methodology

3.1. Research Design

According to Gujarati and Porter (2003) and Farooq et al. (2022), the current study employed a quantitative research technique, which is effective when both cross-sectional and longitudinal features of the issues under investigation are necessary.

3.2. Sample selection criteria

According to the selection criteria suggested by (Noor et al. 2020). The company must be in operation during the research period (2013-2022). During the research period, there were no mergers or acquisitions. For the whole period, all necessary data is provided. During the research time, there is no ongoing loss. Based on the above selection criteria, the last sample of the study consists of 28 enterprises from the cement and sugar industries. Data for the research variables were gathered from their respective websites, the SBP (State Bank of Pakistan) database, and the PSX.

3.3. Measurement of variables

Variables	Abbreviation	Measurement	References
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Corporate Social Responsibility	CSR	Total CSR expenditure divided by Earning after tax	Ehsan and Kaleem (2012), and Farooq et al. (2022)
Return on Assets	ROA	Net Income divided by Total Assets	Ali et al. (2022), Farooq et al. (2023)
Return on Equity	ROE	Net Income/Equity	Ali et al. (2022), Farooq et al. (2023)
Earnings per Share	EPS	Earnings available for shareholder divided by Outstanding Shares	Ali et al. (2022), Farooq et al. (2023)
Firm Size	FS	Total asset log	Akhtar et al. (2018)
Leverage	LEV	Long-term debt divided by Total assets	Mule & Mukras, (2015)
Firm Age	FAG	The age of the firm is measured by the number of years from its inception.	Farooq et al. (2022)

3.4. Econometric Model

The regression model adopted is used to explore the impact of CSR on FP.

$$ROA_{it} = \alpha_0 + \alpha_1(CSR_{it}) + \alpha_2(FS_{it}) + \alpha_3(FAG_{it}) + \alpha_4(LEV_{it}) + \epsilon_{it} \dots \dots \dots (1)$$

$$ROE_{it} = \alpha_0 + \alpha_1(CSR_{it}) + \alpha_2(FS_{it}) + \alpha_3(FAG_{it}) + \alpha_4(LEV_{it}) + \epsilon_{it} \dots \dots \dots (2)$$

$$EPS_{it} = \alpha_0 + \alpha_1(CSR_{it}) + \alpha_2(FS_{it}) + \alpha_3(FAG_{it}) + \alpha_4(LEV_{it}) + \epsilon_{it} \dots \dots \dots (3)$$

Whereas;

CSR_{it} = Corporate Social Responsibility for firm i for time t;

ROA_{it} = Return on Assets for firm i for time t

ROE_{it} = Return on Equity for firm i for time t

EPS_{it} = Earnings per Share for firm i for time t

FS_{it} = Size of firm for firm i for time t

LEV_{it} = Firm Leverage for firm i for time t

FAG_{it} = Firm average age i for time t

α_{0t} = Intercept for firm i for time t

ϵ_{it} = error term for firm i and for time t

4. Results

4.1 Descriptive Statistics

Table 4.1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
CSR Ratio	280	.094	.068	-.01	.194
ROA	280	.058	.062	-.027	.153
ROE	280	.142	.119	-.019	.307
EPS	280	7.045	14.935	-72.24	74.52
FS	280	6.959	.412	6.397	7.62
FAG	280	37.336	12.783	16	66
LEV	280	.56	.179	.261	.806

Table 4.1 covers all descriptive information for PSX-listed non-financial enterprises. The mean value of CSR is 0.094, with a standard deviation of 0.068. This variable's lowest value in this panel is -0.01, while its greatest value is 0.194. The mean of ROA is 0.058 and the standard deviation is 0.062. The lowest ROA value is -0.27, while the highest value is 0.53. The mean of ROE is 0.142, with a standard deviation of 0.119. The lowest ROE is -0.019, while the best is 307. The average EPS is 7.045, with a standard deviation of 14.935. -72.24 is the lowest EPS value, while 74.52 is the greatest. FS has an average value of 6.959 and a standard deviation of 0.412. The lowest possible FS value is 6.397, while the maximum possible value is 7.62. With a standard deviation of 12.783, the average FAG value is 37.336. FAG has a minimum of 16 and a maximum of 66. With a standard deviation of 0.179, the average LEV value is 0.56. LEV has a minimum value of 0.261 and a maximum value of 0.806.

4.2 Correlation Analysis

Table 4.2 Matrix of Correlations

Variables	CSR	ROA	ROE	EPS	FS	FAG	LEV
CSR	1.000						
ROA	0.299	1.000					
ROE	0.321	0.612	1.000				
EPS	0.338	0.479	0.496	1.000			

FS	0.122	0.375	0.170	0.270	1.000		
FAG	-0.026	-0.033	-0.008	-0.101	-0.162	1.000	
LEV	-0.272	-0.601	-0.360	-0.340	-0.347	0.056	1.000

The correlation matrix reveals both the direction and the strength of the relationship between two variables. Correlations between two variables can range between -1 and +1. A value of 0 implies that no relationship exists between the two variables. A value greater than zero shows a positive correlation, which means that when one variable increases, so does the other. A value less than 0 indicates a negative correlation, which suggests that an increase in one variable causes a decrease in the other. A score of +1 shows that the variables have a substantial positive relationship.

We used a Pearson correlation test in our study to analyze potential multicollinearity among the research variables, and the findings are shown in Table 4.2. These data show that there is no problem with multicollinearity because no correlation surpasses the 0.70 threshold. As a result, our inquiry is free of multicollinearity issues. Table 4.2 shows a positive relationship between the CSR and FP factors, which adds to overall FP.

4.3 Regression Result

Table 4.3 Regression Result

	ROA	ROE	EPS
CSR	0.171*** (0.038)	0.227** (0.094)	57.851*** (10.524)
FS	-0.0523* (0.019)	-0.090* (0.048)	-2.167 (5.420)
FAG	0.002** (0.001)	0.003* (0.002)	0.534** (0.248)
LEV	-0.149*** (.022)	-0.186*** (0.055)	-17.933*** (6.149)
Constant	0.403** (.117)	0.710** (0.288)	6.774 (32.264)
Model	Fixed effect	Fixed effect	Fixed effect
Obs.	280	280	280
R-squared	0.2751	0.0158	0.0456
No. of coid	28	28	28

In this study, the Hausman test is used to assess whether the statistical technique (random or fixed effect) is best for our panel data. The fixed effect model was chosen by the researchers due to all three equations' probability values are more than 0.05 (more than 5%). Previously, researchers used the Fixed Effect Model to examine data from panel data sets. In a fixed effect model, the intercept component changes by the company but is constant over time, thus the name temporal variation intercept. The coefficient of independent variables in a fixed effect model does not fluctuate as much over time (Dougherty, 2011; Klein et al., 2007), which has been promoted as a criterion for selecting a regression model with panel data.

Table 4.3 shows that CSR has a positive relationship with ROA. Other parameters, such as FS and LEV, as well as CSR, have a negative relationship with ROA. The table below shows that CSR and ROE have a positive relationship. CSR has a significant influence on EPS. Some of the study's conclusions are consistent with previous research, such as (Pinkowitz, Stulz et al. 2006), and also aligned with a viewpoint of stakeholder theory. Second, the environment in which the sample was collected might explain the disparity in results. Finally, most research has been performed in developed economies, but this study is being conducted in Pakistan, which is in the process of building its economy.

4.4. Summary of Hypotheses

Table 4.4 Hypotheses Summary

Sr. No.	Hypotheses	Findings
H1	<i>Corporate Social Responsibility practices positively and significantly affect Return on Assets.</i>	Accepted
H2	<i>Corporate Social Responsibility practices positively and significantly affect Return on Equity.</i>	Accepted
H3	<i>Corporate Social Responsibility practices positively and significantly affect Earnings per Share.</i>	Accepted

5. Conclusion

The motive of this research is to investigate the relationship between CSR and FP evidence from the cement and sugar industries in Pakistan. Panel data was extracted from the organizations' financial reports for examination. The success of Pakistani-listed non-financial cement and sugar companies is measured using ROA, ROE, and EPS. The study's control variables include LEV, FAG, and FS. Data from financial statements from 2013 to 2022 are utilized for study and stakeholder theory is incorporated. For data screening, several tests such as correlation analysis are used. CSR is favorably associated with ROA, ROE, EPS, and FS, according to a correlation study. On the other hand, CSR is adversely associated with FAG and LEV. Another variable ROA is positively related to ROE, EPS, and FS. Our findings are in line with previous researchers (Maqbool and Zameer 2017). The conclusions of this study for Pakistani enterprises are broadly similar to those of earlier studies in the setting of poor nations. As a result, the researcher's contribution is relevant to Pakistani enterprises in various economic circumstances. Surprisingly, this study provides adequate evidence in support of the hypotheses in the context of CSR Disclosure.

This study has some theoretical and practical implications. Theoretical implications are following and practical implications are given in next paragraph. In numerous ways,

this work will contribute to the burgeoning literature on CSR and FP. This research was carried out to fill a gap in the Pakistani environment. The study, which is focused on emerging countries, examines the relationship between CSR and FP in Pakistani firms, and it can be useful for further developing economies in related economic conditions. Li et al. (2015) assessed past studies in the context of established economies. Furthermore, (Ullah, et al. 2014) initiated a study on rapidly developing economies in the Chinese context. They discovered a significant association between various components of CSR and FP in their research; nevertheless, few studies have been undertaken in Pakistan, according to the researcher's knowledge. The research is now broad in scope to investigate the aforementioned link in the setting of a transition economy such as Pakistan. Similarly, the outcomes of our study show a substantial relationship between CSR and FP. Finally, this study addresses a gap in the literature on emerging nations, including Pakistan.

This study will undoubtedly assist managers in determining the optimal degree of CSR to enhance FP. More precisely, the research will propose a path ahead for non-financial business management in Pakistan by taking key components of CSR into account. CSR variables have a considerable positive relationship with FP. Stakeholder theory also supports this argument. It advises that policymakers and regulatory authorities take actions to improve corporations' CSR involvement because it increases the firm image among stakeholders. The findings also serve as a guideline for investors to consider when making an investment choice based on the CSR mechanism.

This research, like future studies, has limitations. This is a completely quantitative study; a mixed study might have been undertaken on the subject, but owing to time and budget constraints, it was not possible in our situation. According to the study, "it has relied solely on annual financial reports of firms as a source of information about their CSR activities, even though management can also disclose such details via other methods of mass communication such as newspapers, in-house magazines, and the internet." Further study may be conducted to assess a company's commitment to CSR through various communication channels. Second, due to data limitations, the sample examined was confined to just 28 Pakistani non-financial enterprises across ten years. Future studies should include these challenges and seek to create a platform for more extensive results gathered from other industrial industries. Furthermore, future research should look at corporations from other countries with economies similar to Pakistan's, notably those in South Asia, to obtain more solid results.

Several future recommendations are based on the study's findings and limitations. With a clear understanding of the study's limitations, the researcher suggests using an integrated strategy that blends quantitative and qualitative methodologies. This method can serve as a new paradigm for future academics interested in CSR and FP. Furthermore, this study opens up new opportunities for future researchers and policymakers in poor nations. It enables users to study the complicated relationship between CSR and FP at the company level by introducing additional variables and employing advanced research methods such as the Generalized Method of Moments (GMM). Furthermore, the study investigates several aspects of CSR and FP, shedding light on the impact of CSR, the influence of state ownership in enterprises, the prevalent

economic insecurity in developing nations, and the role of political instability in corporate FP. All of these are attractive research subjects for future scientists in this field.

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Role of an organizational psychologist in improving and accelerating work engagement

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Abstract

The purpose of this study is to find the role of an organizational psychologist at the forefront of workplaces, to encourage the mutual wellbeing of individuals and organizations. This is a conceptual paper that builds upon a thorough review of existing conventional management theories to identify key cracks in knowledge about the importance of organizational psychologists to deal with a diverse range of social and behavioral issues within organizations considering common psychological safety at work. We start by conducting a content analysis of a few articles in the field that discuss the ‘why’ for organizational psychologists under work climate and continue with the strategies that can help organizations in reducing work-related stressors and improving social working conditions, and training. Findings of the study show that collective wellbeing relies equally on organizational support teams (HR) and organizational psychologists through collective mindfulness. Many studies are conducted in different countries with different perspectives of the organization and HR, where the role and importance of the organizational psychologist or psychologist in the organizations were highlighted, yet the concept is still blurry in Pakistan, and thus, this study is a novel contribution in a geographical context.

Keywords: *Psychology, Organizational psychologist, Employee wellbeing, Corporate wellness, Organizational development.*

JEL Code: M54, J19

1. Introduction

Organizational Psychologist (OP), also referred to as Work Psychologist in the profession of Psychology are individuals considered work expert professionals who have a responsibility to support difficult events, behaviors, and decision-making at the organizational, societal, and community levels to make sure that employees otherwise called workers are earning their employee rights and benefits rather than being impaired by their overly demanded work commitments and toxic work cultures (Garg, al., 2023). Flow and fulfillment are the two key core elements that are connected to employee wellbeing and overall organizational success. Organizational climate change is essential in organizational success as when the work climate turns positive, the success automatically seeps into every aspect of a firm’s productivity, thus

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understanding how people think, feel, and behave in a work environment is crucial for collective collaborative work culture (Veloso-Besio et al., 2019).

Many case studies acknowledge the fact that the role of organizational psychologists has thrived over the years of their mindful scientific approaches that enhanced the collective capability of employees and employers towards higher reliability and comparatively better performance. Since the discovery of organizational psychologists, in the field of psychology, the focus of organizations shifted towards more mindful management approaches and organizational practices to unlock different behaviors that are associated with diversified work cultures, and individual and team performances leading to healthy working environments where people build business and business is built by people (Reneclé et al., 2020). For years, the concept of psychology has remained confined to clinical psychology or something that is related to dealing with various kinds of mental illnesses, and yet little attention was given to the fact that psychology overall is mainly about understanding different human emotions and the ways to curb with difficult human emotions be it at a personal or professional level. Thus, the concept is conceived right from the beginning when an individual begins a career just to prepare him/herself for the workplace in the future, a place where a human spends more than half of his age before retirement and the fact that this has an effect cannot be ignored or discussed separately without having to understand how people behave especially at work premises and what are the factors that contribute to their work performance and most importantly how they feel about it and what are the after-effects (Truxillo et al., 2015).

However, the lack of awareness of this field of psychology that focuses on ‘work psychology’ has caused this domain to stay out of the picture for quite a long time. Whereas, the entire focus remained on the roles that are played by human resource management personnel and thus the function that do not know how to apply scientific management strategies towards complex human behavioral issues at work (Solat et al., 2020). The fact that ‘interactional psychology’ has a distinctive role to play, the entire importance is yet to be discovered. And because modern work-life issues require modern scientific techniques, the role of human resources needs an extension in vision, and so is the goal of this conceptual paper. It is crucial to understand that the psychology of work revolves around people and the people make the place contributing to a collective workplace wellness. When we talk about wellness, the idea is to create an environment free of a negative vicious circle where employees who tend to benefit more are regarded with the highest level of civility, whereas, those with low benefits are prone to severe workplace incivility (Dora & Azim, 2019).

The sole purpose of this conceptual paper is to raise awareness regarding the role an organizational psychologist has to make in the health of the workplace, especially in Pakistani culture, and why it is important to expand the role of Human Resource Management with some scientific management tools where difficult situations require

difficult and differed management gears. Throughout this paper, the terms like scientific management tools and corporate wellness will be found shedding some light on the overall concept to encapsulate the extensive, multidimensional intricacy of these relations and own that there is an utter need to shift the focus from traditional HR practices to modern human scientific management practice. The concept of creating a workplace that is built on 'interactive psychology' is aimed at explaining the wellness of employees through healthy interactions between employees and organizations (Dik et al., 2019).

Therefore, there is a need to come up with a model based on theoretical grounds to raise awareness among organizations to expand the role of HR and consider hiring an Organizational Psychologist with an intention to explicate healthy interactions at workplaces and offer a path that leads towards healthy workplace culture, thereby promoting more organizational citizenship behaviors. This paper also aims to contribute to both theoretical and practical aspects of 'organizational psychology'. The taboo that management has little to do with psychology, this paper aims to debunk the core relationship of human psychology at work with management practices. To simplify the terms used in this paper, we define human resource behavior as the attitude of employees at the workplace and their satisfaction and commitment towards the organization for collective benefits, organizational behavior refers to the methods that employees use as a mode of communication between different teams and groups within the organization along with their ability to deal with complex issues at work (Aguinis et al., 2021).

While we insist on the importance of having an organizational psychologist in workplaces, we must also understand the relationship between the functions of HR and how they are connected to an organizational psychologist. The individuals who study *selection* in the field of OI psychology tend to focus on psychological testing and measurement, whereas, those who study *training* are more experts in cognitive and motivational processes that can aid in employee training, motivation, and engagement (Truxillo et al., 2021).

1. Literature Review

Understanding the history or roots of Organizational Psychology is important in order to extract the very role of Organizational/work psychologists in managing human resources. Nevertheless, Researchers have time and again studied the well-being of employees and its relationship with overall corporate wellness. Yet the research on having an organizational psychologist in managing human resources has been discussed least in the Pakistani context. However, the concept of having organizational psychologists at workplaces was conceived in the early 20th century (Powers, 2019).

The very existence of I/O Psychology came into being before and after World War I, where few famous researchers like Hugo Munsterberg with a research era between (1863-1916), James Mckeen Cattell from (1860-1944), Robert Yerkes from (1876-1956), and Lillian Gilbreth who was titled as the first to hold the PhD in I/O Psychology developed the concept of Employee Relations from (1878-1972). These were the scholars who worked hard to build the conceptual model for applying scientific management practices in organizations to understand complex human behaviors for the overall wellbeing of employees and organizations in wholesome (Derksen, 2020). Out of all these eras, where the importance and role of OP were frequently highlighted, the revolutionary period was considered the one where the concept of 'Employee Relations' came to work life and the movement started to study and learn more about the effects on performance by workers, labors, and employees when their feelings, behaviors, and attitudes are given special and individual attention (Gerard, 2022). The history of O/I psychology entails the era of Civil Rights that happened to be radical, started in 1964 and is still in practice where the fairness of hiring practices started to be considered crucial as prior to that the firms used to appoint workers based on their liking and disliking which resulted in conflicts within a different ethnic group of workers. This is where the action point by Civil Rights Law was introduced to ensure the hiring is based on proper selection procedures to the extent where they are defensible in courts. This was the awakening time in the entire history of O/I psychology and Human Resource Management as the first time separate Labor Laws were introduced and enforced considering the rights of workers and employees (Dipboye, 2018).

Despite the several theories and scholars from history emphasizing the importance of employee wellness, organizational productivity, and employee well-being rarely converge with the concept of psychology as it is considered that organizational psychologists are only supposed to come into the picture when management invites them to mostly work for people at higher organizational levels at the cost of leaving the workers at different especially at lower levels unhappy and exhausted (Shinn & Perkins, 2000). Early in 2021, a theory titled 'Industrial, Work, and Organizational Psychology IWOP' by (Kozusznik & Glazer, 2021) was introduced with some core key points that further enhanced the role of OI psychologists in managing human resources via a twofold objective that relates employee well-being with effective performance and it gave a clear dimension to those in managing human resources that OI psychologist are the experts trained to support difficult decisions at organizational, group and societal level in order to assure workers/employees are properly benefited according to Labor Laws. Ever since technology emerged rapidly, change management became a difficult task for HR personnel to help employees accept the change and eventually adapt to the changes but of course not at the cost of their mental well-being, because when people are at their optimal functioning state, they tend to deliver better results (Cuadrado et al., 2021). Ever since the millennium year started in 2000, the technology took over drastically and some high-tech profound changes were seen in the malfunctions of HR within organizations, and all the paperwork related to job announcements, hiring, and even interviews started happening online / virtually. These

changes were not only limited to recruitment and selection but were also taken further to other functions that are performed by HR including training and development which also replaced in-person training sessions to employees taking sessions online from trainers sitting in different parts of the world (Oswald et al., 2020). Considering the speedy changes in how HR used to function back then, and how it is now functioning shifts the attention towards multiple corporate behaviors, and these behavioral changes are now a challenge for HR personnel to handle as they are more psychologically based and less related to routine conflict seen under work climate. Therefore, it is now becoming the need to apply scientific tools and methods to take hold of such behaviors that have emerged with emerging globalization where employees are now expected to interact with multinational companies working at different time zones and with this need in hand, it is crucial to train employees to acquire skills that are required to cope with cross-cultural interactions. Having said that, the organizations need a clear understanding that the same employees who used to work traditionally, without training, can never perform as per the given situational need, and in case if everything is left to employees to handle, the consequences have adverse effects on team, organizations and overall productivity (Obrad & Gherheş, 2018).

In order to divulge the importance of placing an organizational psychologist in the country like Pakistan, it is crucial to first look at their existence from a geographical context and understand why this field has grown and changed the way organizations deal with workforces.

Japan: the history holds a strong presence of organizational psychologists in Japan with a hundred-year period starting from the 1860s to date witnessing the steady growth of the Japanese techno Industry. It is worth saying that Japan has invaded roots in today's tech world and since then they have gone through immense changes in terms of how they deal with the labor force (Chilson, 2019). The development of applied psychology started in the early 1900s century, when organizations started to recruit Organizational psychologists in industries with larger labor forces particularly in 1920 when Japan was influenced by social, economic, and psychological forces alike to those found in Europe and America (Tanaka-Matsumi & Otsui, 2004). This was the time when many organizational psychologists in Japan were hired by industries to conduct job analyses to create low-pressure environments on mental activity, this era roared in 1920 and is still in action performing even the basic HR functions under its supervision.

Germany: The boom in the history of Germany for Organizational psychologists initiated in the early 19th and 20th century. The conceptualization took place during different political periods in German history, during the span of 1814/1815, and is in action to the present day. The immense need to engage an organizational psychologist in management functions, especially in workforce industries arose in 1990 from United Germany after the unprecedented sociocultural changes that developed from modest beginnings in technology and the diverse range of foreigners becoming part of common German culture (Edwards, 2013). The German work culture started to bloom when

organizational psychologists started to apply scientific tools within diverse institutions and encouraged a differentiated professional structure (Sprung, 2001).

Australia: While the term organizational psychologist is widely used in the UK, Germany, America, and Europe, Australia, and New Zealand named the professionals as Work Psychologist under the Federation of Work that took place as ‘Alliance for Organizational Psychology a federation where work, organizational, and industrial psychologists globally merge together to contribute in all areas of work including employee, organizational and governance perspective (Macqueen & Machin, 2022). The concept of Organizational psychology in Australia was first conceived in the year 1927 in Sydney, however, it took a boom in recent decades there was substantial growth seen in Australia, initiated from Melbourne and Sydney where management companies started providing work/organizational psychologists to firms under HR to act as a catalyst in providing applied psychology in the field like recruitment and selection, assessment, training human resources and career planning, while also addressing psychological issues at work for a better working atmosphere (Taft, 1982; Rashid, et al., 2024).

Austria: The very existence of Organizational Psychology in Austria was first founded its ground in the year 1953 under ‘The Austrian Professional Association of Psychologists’ and now it has more than 1800 members globally, whereas in 1990 organizational psychologists were accepted as a formal profession in Austria (Rollett, 1999). At present, there are 2468 applied psychologists working in Austria in different national and multinational companies providing services under the domain of human resources to improve the wellbeing of employees and using scientific tools to understand the effects of work on mental health especially at a time when existing interest is on how rising demands from employers have affected the organizational efficiency (Hüffmeier & Zacher, 2021).

Nevertheless, the above are the few countries discussed to provide a geographical context for the global presence of organizational psychologists to create a sense of what scientific tools they provide to industries and how they analyze and answer questions that are directly or indirectly related to an employee’s wellbeing, and effectiveness. It is worth quoting that renowned organizations like **NASA, FBI**, and multinationals like **Amazon, Google, Starbucks, Nestlé** and even the smaller companies and public sectors like Military forces recruit organizational/industrial psychologists to propose unique principles that lead to effective employee selection, training, and development and wellness programs to keep them engaged and committed (Truxillo et al., 2021). According to (Purina, 2021), Nestlé Purina- an American subsidiary of Nestlé Global based in St. Louis, Missouri, recently 2021 announced a new onsite counselor as per their Employee Assistance Program (EAP) that provides confidential support to promote mental health by an organizational psychologist named Dr. Delores who provides the employee at Nestlé Purina, counseling services, wellness training, incident debriefings, and community resources with tech techniques to help reduce life-stressors among employees. Another branch of Nestlé Waters based in North America has an organizational psychologist named Dr. Vanessa Lammers who works in HR Analytics

in the development and pre-hire assessment of employees with additional support to HR for strategic workforce planning, and data modeling projects for the Global Nestlé Waters business with around 70 thousand plus employees (Nestlé Waters , 2018).

2. Research Methods

This is a conceptual paper that builds upon a thorough review of existing conventional management theories to identify key cracks in knowledge about the importance of organizational psychologists to deal with a diverse range of social and behavioral issues within organizations considering common psychological safety at work. We start by conducting a content analysis of a few articles in the field that discuss the ‘why’ for organizational psychologists under work climate and continue with the strategies that can help organizations in reducing work-related stressors and improving social working conditions, and training.

3. Discussion

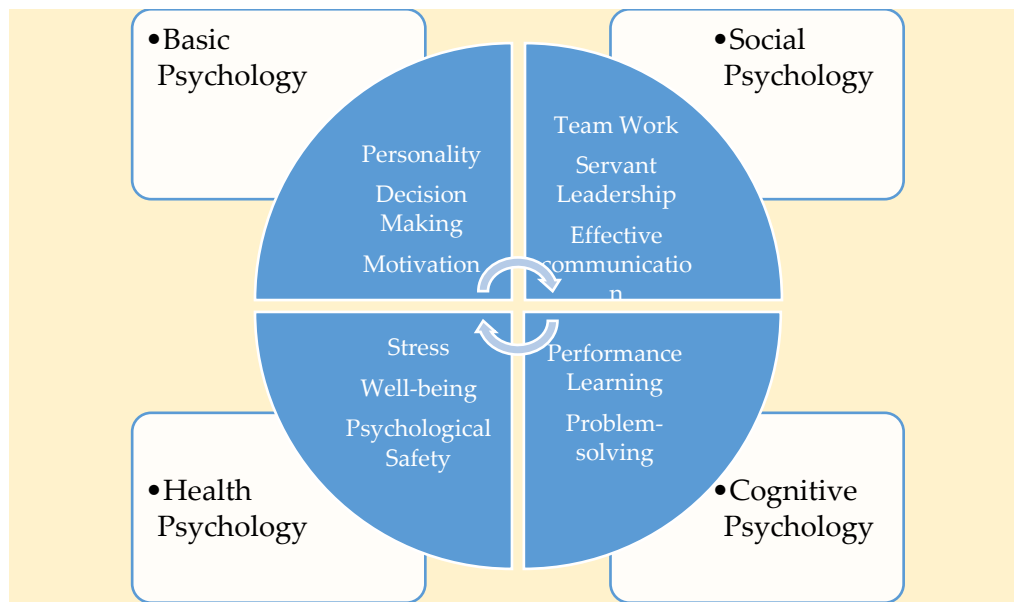


Figure 1: Conceptual Model

As mentioned in the conceptual model figure 1, this paper presents the case that an Organizational psychologist calls for managerial styles and leadership approaches that recognize and respect the importance of relationships in organizational contexts for the well-being of workers. They particularly focus on the study of human behavior in the workplace. As you can expect, the study of human behavior in the

workplace is a substantial endeavor since the majority of occupations are extremely complex, requiring a wide variety of mental and physical abilities. Work organizations are frequently vast and intricate entities composed of hundreds or thousands of individuals who must collaborate and coordinate their efforts to generate a product, service, or piece of data. Workers are increasingly dispersed across the nation and the globe, coordinating their job operations using internet networks and other communication technology. Some I/O psychologists examine the fundamental people tasks inside firms, such as worker recruitment and selection, employee training and development, and job performance measurement. Other I/O psychologists investigate the psychological mechanisms behind work behavior, including worker motivation, job satisfaction, and stress. Other I/O psychologists are concerned in group dynamics in the workplace, such as the relationships between bosses and subordinates and how groups of employees collaborate to complete a task. Lastly, some psychologists and other social scientists investigate the bigger picture, including the structure of work organizations and how physical, social, and psychological settings influence employee behavior (Gelfand et al., 2017).

Nevertheless, organizational psychology is now one of the most rapidly expanding subfields in psychology. I/O psychologists are at the vanguard of those specialists supplying the enormous need for information leading to a deeper understanding of the worker, the workplace, and work behavior. As we will see, they are involved in practically every facet of business and industry, and the range of topics they study and the duties they undertake is enormous. Although the efforts of I/O psychologists have served to enhance workplace behavior, other changes in the working environment and the wider world have affected the field of I/O psychology. Perhaps this conceptual paper will mirror four significant developments in the world of work that are essential to I/O psychology today and in the future.

4.1 First essential: changing nature of work

Employment and organizations are evolving and transforming at a rapid rate. Organizations are becoming leaner, with fewer levels of hierarchy and a bigger focus on work teams within smaller subunits. With the help of telecommuting, innovative communication technologies, and sophisticated networking, individuals may collaborate with team members who are

geographically distributed from nearly any place (Autor, 2019; Gilal, et al., 2024). This will have profound impacts on how work is performed, and I/O psychologists will contribute significantly in assisting workers to adjust to technological and structural changes. In addition, I/O psychologists will help management in redesigning jobs for greater efficiency, in creating new and more flexible organizational structures and work teams, and in promoting employees in becoming more engaged, motivated, and able to cope with the stresses related to changes (Balzer et al., 2019). Due to technological improvements, many professions are becoming increasingly complicated and demanding, needing people to comprehend more information and make more decisions (Xu et al., 2018). Moreover, corporations throughout the globe are downsizing their workforces. This drive toward "leaner" workforces has negative effects on workers, who are asked to perform more work and can lead to a sense of job insecurity. Some changes in work, such as telecommuting, increased worker mobility, and organizational downsizing, have led to lower levels of worker loyalty and commitment, according to research (Bughin et al., 2018).

As we shall see, I/O psychologists may assist firms with increasing staff engagement and decreasing employee turnover. Contracting with an external entity to do functions that were previously performed or might be performed within the company is another trend (Ciarocco & Strohmetz, 2018). Outsourcing is applied to boost output and can lower the personnel-related overhead costs associated with performing the operations in-house. I/O psychologists are concerned with helping to comprehend the impacts of the increased use of outsourcing on variables such as the approach in which tasks are performed, group processes, organizational structure and design, employee commitment, and motivation, among several others (Lefkowitz, 2019).

4.2 Second essential: expanding focus on human resources

According to (O'Connor, 1999) the Mayo and human relations movement indicated long ago that the world of transformation will see a lot more emphasis on the management and preservation of an organization's people resources. Organizations are more concerned with and sensitive to the requirements of their employees. At the same time, organizations are learning that innovative and competent employees are the keys to success. The term "talent management" is constantly used in workplaces; it is essential because it highlights the emphasis on worker value and the necessity to choose, nurture, and develop workers' potential (Bruce, 2006). In the future, this will become much more prominent,

particularly in high-tech companies, the technological boom of the past few decades has led to a tight job market for really capable professionals. This means that companies will have to compete hard to attract and retain the best employees (Claus, 2019). Increased emphasis must be placed on areas such as employee recruitment and selection procedures. To recruit and keep the finest employees, companies will need to offer more enticing benefit plans, including "family-friendly" policies such as employer-sponsored daycare and lengthy family breaks (Lee et al., 2019). In order for older employees to continue contributing to the workforce, they will require frequent upgrading given the constant advances in technology and the ever-expanding body of knowledge essential to do their tasks. In addition, organizations face an aging workforce and a decline in the number of young people joining the labor force (Dernberger & Pepin, 2020). All of this suggests the need for a larger emphasis on people concerns, such as recruiting, screening, and testing new employees, as well as on employee training, development, and pay packages, which are all I/O psychologists' domains of expertise. Therefore, an organizational psychologist urges organizations to view the worker as a "complete person" rather than merely a "working being." An organizational psychologist places the focus attention on individual development, exploring processes such as how people get interested in their task, how they manage stress and adapt to change, the influence of emotions in the workplace, and the "overlap" between employees' home and work routines, acknowledging that problems at home can emerge throughout the work and vice versa (Grandey & Sayre, 2019).

4.3 Third essential: increasing diversity and globalization of the workforce

For the last several eons, there has been a fast and constant shift toward a more global economy. Global businesses and industries are the main lobe of the global marketplace (Sopow, 2020). Before, companies were only concerned with domestic markets and competition, but now they must also evaluate the global picture. As an increasing number of employers go global, there is a massive market for personnel to be trained for working in or with organizations in other countries (Segal, 2019). Future leaders and managers must have international awareness, knowledge, and respect for other cultures, and the ability to connect with people from diverse origins (Teagarden, 2007).

According to Cuadradoa et al. (2021), organizational psychologists aid organizations in addressing the challenges that rising diversity will present. Demographic and cultural differences can inhibit the performance of working groups when they're not carefully managed (Gupta, n.d.), potentially causing

conflict situations, hindering team cooperation, and impeding performance (despite the benefits of diversity). Hence, the key to successfully dealing with diversity is to look beyond the surface issues that split people and refocus on the deeper benefits that diversity brings. Furthermore, the massive number of organizations going global, with the rising amount of women entering the workforce have all led to even more diversity in the workplace. In the future, this heterogeneity will only rise. Women and ethnic minorities, who have hitherto been the subject of workplace discrimination, now make up a majority of the global workforce, and similar patterns may be witnessed worldwide. Besides, as individuals become more internationally mobile, the cultural diversity of workplaces will also grow (Welch et al., 2018, Gilal, et al., 2023).

4.4 Fourth essential: increasing relevance of organizational psychology in HR policy and practice

Although organizational psychology has had a strong influence on how HR selects, trains, develops, and motivates employees, there is tremendous potential for work psychology to play an even bigger role in helping to improve work performance and create better, more fulfilling, and "healthier" workplace conditions. It has been suggested that organizational psychology will have a significant impact on the workplace in the future and that I/O psychology research must be directly applicable to human resource practices. Blustein et al. (2019) proposed that Organizational psychologists should address a multitude of workplace and social issues and questions in the future with a human resource management perspective. These include: Selecting and training more ethical and socially responsible organizational leaders; Improving the lot of workers through fair compensation, flexible work policies (including work-family concerns), reducing workplace discrimination, maximizing the utilization of workforce diversity and globalization, enhancing performance via efficient personnel management and development, and enabling organizations (and their people) to embrace positive change and become more progressive.

4. Conclusions

This paper, conceptual in nature, develops a problem-focused approach and proposes a model that depicts how an organizational psychologist can prove to be a source of sustained competitive advantage as they tend to focus on both the research and practice of organizational psychology at work. The scientific knowledge of organizational psychologists is deepening in the understanding and comprehension of work behavior, while they practically apply scientific

tools to enhance the psychological well-being of workers. Organizational psychologists blend their research with that of other social sciences because they are not only the specialists that examine work behavior, rather they also conceptualize employee wellbeing and posit that the behavior of persons is a result of a set of personal characteristics and a set of environmental characteristics that occur in an interaction.

The study has the following limitations. First, the authors only conducted theoretical research and developed a conceptual model on the linkage between organizational psychology and human resource management but did not offer an empirical test. Second, the study is conducted for implication with a context of developing countries which might not be applied to developed countries.

Future studies can incorporate empirical research to test the propositions offered in this paper. Notably, there is a need to demonstrate that organizational psychology can impact differently irrespective of changes in the era associated with globalization and digitalization. Additionally, future studies can differentiate between organizational psychology and its direct and indirect influence on existing human resource practices in more detail.

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