

INTRODUCTION

Iqra Journal of Business & Management is a peer reviewed journal initiated by the Business Administration Department, Iqra National University, Peshawar, Pakistan in year 2017. The aim of the journal is to publish latest research related to the field of management, business administration, marketing, finance, entrepreneurship and so on. The main contributors of the journal are academics, researchers, practitioners, consultants, and undergraduate and postgraduate students. The journal has a diverse advisory board consist of experts from developed countries as well as well-known universities at national level. The journal provides a platform for sharing diverse research work in the field and aims to reduce the gap between the industry and academia. The journal is abstracted and indexed in high ranking abstracting and indexing agencies. The journal does not charge any fee to authors and is freely available to the readers through its web site.

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The Iqra Journal of Business & Management provides an excellent outlet for research and scholarship on management-related themes and topics. The journal contributions comes from all over the country as well as from abroad, and include empirical and methodological articles across the full range of business and management disciplines including;

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- Research methods

CHIEF EDITOR MESSAGE

Pakistan is going through a transitional period having long lasting impact on its economy, politics, culture, and social structure of the society. Key drivers of the transition include CPEC project, changing International and national political dynamics, globalization, climate change, and new public management. The transitional period is also putting greater pressure on organizations across the diverse range of industries/sectors to adopt according to the changing needs of the environment. In this dynamic environment, there is urgent need for research and development of indigenous new methods, techniques, and tools for the growth of businesses and industry in Pakistan. It is a matter of great pride, enthusiasm, and anticipation that Iqra National University is launching its management science journal named 'Iqra Journal of Business & Management'. The journal aims to provide a platform to the researchers belongs to the management and administration discipline. The journal will disseminate the latest research to the research community, academics, industry, government and social sector. The aim of the journal is to provide industry and businesses within Pakistan the latest research and bridge the gap between the industry and academia. In current era, best scholarship requires the qualitative as well as quantitative methodology so the journal will publish research articles on both type of research along with insightful commentary, field reports on contemporary management practice, all of which will make the journal highly beneficial for its readers.

The development of journal required a lot of hard work and I appreciate the work of managing editor, co-managing editor and associate editors. On behalf of Iqra Journal of Business & Management, I am thankful to the university administration for its support of this effort. I am thankful to the Chancellor, INU Obaid ur Rehman, and all the academic and administrative staff in supporting this research endeavour.

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TABLE OF CONTENTS

Title of Research Articles

Page

FOREIGN DIRECT INVESTMENT AND FEMALE LABOR MARKET DECISIONS IN SOUTH ASIA: A LONGITUDINAL ANALYSIS	50
Farhan Zeb, Zohaib Ali, Fakhr e Alam	
DETERMINANT OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE: EVIDENCE FROM PAKISTAN.....	63
Faisal Khan, Dr. Syed Hamid Ali Shah, Sumera	
TESTING THE PERCEIVED ORGANIZATIONAL POLITICS AND OUTCOMES WITH MODERATING ROLE OF HONESTY-HUMILITY PERSONALITY DIMENSION USING SMART PLS APPROACH.....	88
Muhammad Tahir , Raza Ahmed Khan , Zakir Rahim	
IMPACT OF INTELLECTUAL CAPITAL ON ORGANISATIONAL PERFORMANCE IN SOFTWARE INDUSTRY OF PAKISTAN.....	100
Azmat Ali Shah , Zohaib Ali , Syed Numan, Waseem Khan	

LETTER FROM THE EDITORS

Warmly Welcome to Iqra Journal of Business & Management (IJBM) Volume 1, Issue 2, 2018, the official journal of the Iqra National University Management Science Department. This University providing Management Science, Engineerin, Allied Health Sciences, Fashion & Design & Mass Media Communication Discipline Bachelors, Masters & Ph.D degrees. A non- profit association of scholars whose ambitious to come up with challenging and encouragement ideas to support and transfer of knowledge throughout the world.

The editorial mission of the IJBM is to publish pragmatic and hypothetical research articles which improve and introduce the core values of Information System and Management Science. All research articles are double blind referred. The manuscript in this issue have a good enough acceptance rate, which is keeping with our editorial mission. Versatility of thoughts will always be welcomed.

Please explore the Iqra National University website at <https://www.inu.edu.pk/iqra-journal-of-business-management/> for on-going information about the university and Journal, and about Management Sciences academics and our collective conferences. Submission suggestion instructions and guidelines for publication are also provided on the provided website.

Prof. Dr. Shahjehan

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FOREIGN DIRECT INVESTMENT AND FEMALE LABOR MARKET DECISIONS IN SOUTH ASIA: A LONGITUDINAL ANALYSIS

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ABSTRACT

Using panel data on Female Labor Force, Foreign Direct Investment (FDI) and Per capita income for India, Pakistan and Bangladesh, this paper explores the impact FDI and PCI has on Female labor force participation. The analysis based on Generalized Method of Moments (GMM) estimation shows that foreign direct investment has a significant positive relationship whereas per capita income has a significant negative relationship on female labor force participation. To improve the predictability from this analysis skill level, education level and Total Fertility Rate are taken as controlled variables the results predict that FDI has a significant and positive relationship with higher skill and educated female labor force.

Keywords: Panel Data, FDI, Female, Labor Force, Pakistan.

INTRODUCTION

A sufficient body of literature is available on the causes, impact and nexus of economic globalization, trade and foreign direct investments. Over the past century the world has become interconnected and has created some form of inter dependency between different countries. It is also true that we are witnessing a trade war between South Asian countries which might get even more severe in the future. Jobs are at the center of this current ongoing

political and economic debate between the different trading partners, more specifically how globalization has affected the employment opportunities for the labor force in Pakistan, India and Bangladesh. However this debate and many other like it around the world don't concentrate on the role of gender even though women have been playing an important part in the formation and growth of export economies all over the world for centuries (Senior 1991; Momsen 1993; Joeques and Weston 1994; Freeman 2000). This holds true even today and hence logic dictates that there would be some causation and relation between Trade, Foreign direct investment and Female Labor supply decisions in the labor market. The effect of globalization on female labor force might be different than their male counterparts and hence warrants further scrutiny but this discussion for most part was limited to the ones carried out by feminist economists or NGO's even till the 2000s (Bakker 1994; Joeques and Weston 1994; Marchand 1994; Beneria 1995; Elson 1995; United Nations 1995; Riley and Mejia 1997; Haxton and Olsson 1997; WIDE 1997a; 1997b).

This study is a regional study, the first aim was to perform a panel data analysis for overall SAARC countries but as Pakistan, India and Bangladesh constitute of more than 90% of South Asian population for which we had to limit our study to only Pakistan, India and Bangladesh, it would give us a good idea of the conditions of the labor markets of the whole SAARC nations i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka.

LITERATURE REVIEW

As stated in the beginning, there is no dearth of literature on the current topic i.e. nexus between FDI and Labor markets. These papers cover different dimensions of this relationship and also point out various factors that can influence the labor markets as well and hence can't be ignored. Some of these papers are discussed below so this section not only looks at the trends in the previous studies but will also help us point out some control variables which will help us make our findings more accurate and precise. Even though our paper is only concerned with female labor force, we will still analyze some papers that concentrate on male labor force for the sake of comparison.

We will start with the Paper written by Becker (1957) where he states that an increase in competition will also increase the cost of discrimination against minorities (by color or gender) hence forcing the firm to either stop/decrease discrimination or face the consequence

of becoming less competitive and being force out of the market. Hence as per this theory, more competition should benefit the female labor force and it is also true that increased FDI and trade will lead to increase in competition in the host country. Becker's theory has been tested many times over the decades and even though the core theory may stand true but many extensions have been added to the findings along with many factors being pointed out that has even pointed to negative consequences for the female labor force. According to Becker competition leads to decreased gender inequality and positive impacts for minorities in the labor market (in our case the minority is female). Sandra E. Black and Elizabeth Brained (2002) and Peter A. Murray (2013) showed that the nature of the industry also plays an important in the impact more FDI and trade will have i.e. they showed that as concentrated industries face much less competition than competitive industries, the room for gender discrimination is more in concentrated industries. Remco H. Oostendrop (2009) also points out that the level of development that the country has also determines the impact economic globalization will have on the labor markets of the host country i.e. a threshold of development must be passed before more trade and FDI can lead to lesser gender income inequality and by extension better jobs and wages for the female labor force.

Niklas Potrafke, Heinrich W. Ursprung (2012) in their paper point to social institutions and how strong social institution can lead can reduce female subjugation and promote gender equality. Some papers argue that it is due to gender inequality die to which some nations have seen their industry develop, for example Seguino (2000) in his paper presents the argument that the fast growth being experienced by the Far East Asian nations was in part due to the gender wage discrimination which decreased the per unit cost and provided the firms with capital to employ technologies that increased productivity.

The papers mentioned above do point out some variables that mitigate or aggravate the impact of economic globalization on labor markets (gendered or otherwise) but moving on we review some papers that help us point out some essential control variables without which our analysis in general and regression in specific won't be able to give us reliable results. One such variable, especially when talking about the female labor force / female employment or unemployment rate / female labor force participation is the fertility rate because even by common observation we can state that having kids do affect the labor / leisure decisions of the working women. Zabalza et al (1983) in their paper state that increased responsibilities of women due to increasing household responsibilities including child care will decrease the working hours of women and hence have a negative impact of the female labor force along

with increased gendered and employment gap as well. Having a child also reduces the probability of a women to enter the labor market which will also have a negative impact on the female labor force (Chun et al, 2002). This means that fertility rate is one of the determinants of female labor force that cannot be ignore and hence will be used as a control variable in our analysis.

Decreased working hours due to child care for women means that overtime the skill gap between men and women will increase and Broecke et al (2017) indicates that skill level differences is at least as important in explaining the cross country differences in wages as other labor market forces. There is no reason why this should not be true in the gendered context as well. Evidence for this can be seen in works of Mincer (1974) and Polachek (2003) where they explain that the reason married women earn less than married men is that married women participate much less than their male counterparts in the labor force which means that the skill gap increases overtime and have evidence of this in their much earlier published paper where they show why married women earn less than married men? Because married women participate much less in the labor force than married men. Broecke et al (2017) also showed that skills are as important as other determinants when talking about labor market decisions. Hence we will use skill level as our second control variable by using the definitions of skill level based on International standard classification of occupations (ISCO) done by International labor organization ILO).

The third control variable that will be used by us and is at least as important (maybe even more) as the other two is education level. Not going too much into details it can be stated with many papers over many decades has denied education level as a significant predictor of both gendered wages and employment decisions and hence can't be ignored in our analysis.

DATA AND METHODOLOGY

This section first states the question we are trying to answer in this study and then provide the possible links between the variables based on previous research. Based on that literature a model will be developed and an estimation method will be chosen so as to actually carry out our estimation.

Model

Based on the literature reviewed above, a model will be developed for this study so as to carry out our estimation. To test the impact of economic globalization on Female Labor

Force we will use model as follows :

$$FLF = \alpha_0 + \beta_1 FDI + \beta_2 FR + \beta_3 PCI + \beta_4 HE + \beta_5 SE + \beta_6 PE + \beta_7 HS + \beta_8 MS + \beta_9 LS + u_0$$

The above model will be used; based on the model above with dependent variable i.e. Female Labor Force. Measuring female labor force choice might seem like a complex task and there are multiple ways to do it. The approach we use will account for the three main determinants

i.e. Foreign Direct Investment (FDI), Fertility Rate (FR) and Per Capita Income (PCI).

The variables incorporated in Model are Foreign Direct Investment (FDI), Fertility Rate (FR), Per Capita Income (PCI), Higher Education (HE), Secondary Education (SE), Primary Education (PE), High Skill (HS), Medium Skill (MS) and Low Skill (LS).

Data

Data for this analysis was taken from The World Bank Data Base for years ranging from 2000 to 2017. The list of countries from which the data is used for our research are given in the following table:

Table 1: *List of Countries*

S.No.	List of Countries
1	Pakistan
2	India
3	Bangladesh

Estimation Methodology

To estimate the model where we have variables that vary across time and cross sections i.e. panel data set and due to this our variability will be more and collinearity will be low along more degree of freedom and efficiency. A linear panel data model is presented as follows.

$$Y_{it} = \alpha + \beta X_{it} + \mu_{it}$$

$$i=1, 2, 3 \dots N$$

$$t=1, 2, 3 \dots T$$

Eq. represents a linear panel model in matrix notation, here is representing the endogenous variable, is a vector of all explanatory variables while is the error term. What follows is a brief discussion on the different estimation techniques that can be used for analysis of panel data along with the conditions that are needed for the use of each estimation technique. To analyze the data Generalized method of moments (GMM) technique will be used which is discussed in detail as follows.

Generalized Method of Moments (GMM)

GMM is used for both linear and nonlinear models which was first developed by Hansen (1982) and has been one of the most commonly used techniques ever since. The reason for this is because its computation doesn't require complex procedures and also doesn't require information about the distribution of the data as moments are being derived from the model.

Zohar states that "GMM is a statistical method that combines observed data with the information in population moment conditions to make estimates of the unknown parameters of this model".

Consider the following linear regression model

$$Y_i = X_i\beta + \epsilon_i$$

Here Y_i is a vector of endogenous variables, is a vector of explanatory variables, represent the coefficients that are not known and is the random error term. In the above model if the explanatory variables or any of the explanatory variables are correlated with the error term. Then we will have the problem of endogeneity and will have what are known as endogenous variables. The condition can be stated as follows $E [X_i, \epsilon_i] \neq 0$ for some i . In this case our estimators will be unbiased and inconsistent. To tackle this issue we will need instrumental variable or a vector of instrumental variables, which may have some or all of the elements of .

$$\sum zy = \sum zx\beta$$

Where $\sum zy = E [Z_i, Y_i]$ and $\sum zx = E [z_i, x_i]$ For identification of β , the condition that the

number of instrumental variables is greater than or equal to the number of explanatory variables needs to be fulfilled.

$$\beta = \sum^{-1} zx \sum zy$$

For our analysis of panel data the difference and system GMM estimators from the family of GMM estimators can be used if the following assumptions are satisfied.

- Cross-sectional part (N) needs to be greater than the time series part (T) (N>T).
- Model could be dynamic and some of the explanatory variables can also be endogenous.
- The available instruments are internal based on lags of the instrumented variables.

Variable Description

Even though the variables we will be using have been discussed in theoretical framework section. Brief descriptions of the variables along with their sources are discussed in this section.

Female Labor Force: It is a measure of the Labor force of women and is the dependent variable of our model. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

Foreign Direct Investment: Foreign direct investment is the sum of foreign capital a country receives in a particular year. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

Per Capita Income: It is the Gross National Income of a country in a year divided by the total population of a country. Data was taken from The World Bank Data Base for years ranging from 1990 to 2017.

Fertility Rate: It shows the births per women in a particular country. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

Higher Education: It shows the labor force with higher education. Data was taken from

The World Bank Data Base for years ranging from 2000 to 2017.

Secondary Education: It shows the labor force with Secondary education. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

Primary Education: It shows the labor force with Primary education. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

High Skill: It shows the labor force with higher technical skills. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

Middle Skill: It shows the labor force with middle technical skill. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

Lower Skill: It shows the labor force with lower technical skill. Data was taken from The World Bank Data Base for years ranging from 2000 to 2017.

Estimation, Analysis and Interpretation Estimation

This chapter discusses the results we have obtained using our estimation techniques. GMM is also used so as to check for robustness as results obtained using GMM are more reliable and don't have econometric problems so GMM results will be followed for interpretation, conclusion and policy recommendations.

Summary of the results of our model are given on the next page which are followed by a discussion about these results are comparison with previous studies. The table shows the dependent variable being used in the models in that table followed by the estimation results.

Dependent variable is Female Labor Force

Table2: Results

Variables	Estimation Results
C	50.31 (2.23)*
FDI	0.14 (4.56)*
FR	-9.98 (-7.67)*
PCI	-0.002 (-2.16)*
HE	0.26 (3.63)*
SE	-1.29 (-0.47)
PE	0.38 (0.94)
HS	1.95 (2.16)*
MS	2.11 (2.05)*
LS	-1.53 (-0.37)

Foreign Direct Investment: The role of foreign direct investment is significant in this framework with a coefficient of positive 0.14 indicating that 1 percent increase in FDI will cause to 0.14 percent rise in Female Labor Force Participation. In reference of Oostendrop (2009) where he concluded that increase in FDI caused more opportunities and a positive impact on female labor market decisions.

Fertility Rate: The impact of fertility rate is very highly significant in this model where female labor force participation is having a high impact because of fertility rate where a coefficient of negative 9.98 indicates that 1 percent increase in fertility rate will lead to 9.98 percent decrease in female labor force participation. In reference to Chun et al, (2002) where it is inferred that an increase in fertility rate is causing a decrease in female labor force participation with more inputs in household production.

Per Capita Income: Per capita income is a significant variable in this model whose coefficient is negative 0.002 indicating with 1 percent increase in the average income of a house hold female labor market decisions are effected with a decrease of 0.02%.

Higher Education: Education is a controlled variable in our framework which indicates the labor force participation in the model. Highly educated labor has more probability to stay in the labor market our results are obtained with a coefficient of 0.26 indicating with a 1 percent increase in higher education female labor force participation will increase by 0.26 percent. The results obtained are obvious because a highly educated is likely to get paid more for going into labor market.

High Skill: Skill level is a controlled variable as well in our framework which is an indicator of labor force participation in this model. Labor with high technical skill level has a higher demand in the market where a highly significant coefficient of 1.95 obtained through estimation of data indicates that a percent increase in High Skill will cause the female labor to stay in the labor market by 1.95 percent. As it can be seen that highly skilled labor is having a higher demand, where the labor is likely to get paid more for the services.

Middle Skill: Middle technical skilled labor plays an important role in the labor market. The result obtained through estimation of data indicates that the coefficient of middle skill is 2.11 which infer that a percent increase in middle skill will cause a 2.11 percent increase in female labor force participation. The results obtained a highly significant.

CONCLUSION AND POLICY RECOMMENDATIONS

This paper analyses the relationship between female labor force participation with FDI and two other important factors i.e. Total Fertility Rate and Per Capita Income in Pakistan, India and Bangladesh. For this purpose panel data from these countries was used ranging from 2000 to 2017.

FDI was showing to have a positive impact on FLFP. This means that FLFP has a positive impact overall but the important thing to note is that our analysis does not capture the

distributional and individual impact of the increase in investment as our literature review pointed out that the female working in the domestic and concentrated industries rarely saw any benefits from the increasing FDI. Women with higher education, high skill level and medium skill level also seem to enjoy increasing opportunities from increasing

international investment. Fertility rate on the other hand is shown to have a strong negative impact on employment opportunities in these developing countries intuitively because of increasing household responsibilities as stated in previous papers on the subject.

Our findings show that educated, medium and higher skilled females are more likely to benefit from globalization in general and foreign direct investment in specific so government along with supporting policies to increase educational level should also concentrate on providing skill building opportunities in technical and vocational training. Therefore, enabling to gain benefit from increasing opportunities along with their male counterpart.

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DETERMINANT OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE: EVIDENCE FROM PAKISTAN

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ABSTRACT

In this study panel data in standard and natural log form from year 2013 to 2017 of 100 Pakistani listed non-financial firms is analyzed through fixed effect regression model to investigate effect of size of firm, profitability, leverage, and liquidity on corporate social responsibility disclosure by firms. In line with the explanation of legitimacy theory, it is found that large and profitable firms disclose more information than small and less profitable firms. The results show that return on asset and size of firm are persistently positively related to corporate social responsibility disclosure. However, net profit margin, and return on equity fails to support the findings. Leverage and liquidity are found to have negative but insignificant association with corporate social responsibility disclosure; where result of liquidity is in line with the explanation of stakeholder theory.

Keywords: Corporate Social Responsibility Disclosure, fixed effect, Pakistan stock exchange

INTRODUCTION

In today's world corporation's responsibility goes beyond mere production of some products or services. Corporations are expected to contribute to solve social problems in the society and as a result corporation goes beyond serving the economic value. Due to globalization, businesses have become more influential with more effect on society; moreover, the recent global financial crisis has alerted the societies to demand more from the businesses to show responsibility towards solution of social problems. Therefore, we observe that voluntary disclosure of corporate social activities in the annual reports of firms is increasing with time. There are two different theoretical views. According to stakeholder theory of organization management all corporate entities are responsible to the well-being of both internal and external stakeholder such as shareholder, employees, management and customers, suppliers, creditors, competitors, and government. Another theory i.e. the legitimacy theory explains that activities of an organization are limited to the boundaries set by the society. Contrary to these views, the agency moral theory suggests that profit maximization is the primary source of a business and hence a business could not be held responsible for the corporate social responsibility (CSR) activities due to associated costs. This theory further explains that social activities are the job of government. CSR is defined as the way a corporation achieves a balance among its economic, social and environmental responsibilities in its operations so as to address shareholder and other stakeholder expectation. CSR activities are expected to increase reputation of firms and hence its financial performance due to resultant improved customer loyalty, public image and goodwill of the corporations. Moreover, disclosure of information by firms could also serve to mitigate the issue of information asymmetries.

This study is an endeavor to identify characteristics of Pakistani listed non-financial firms that are associated with corporate social responsibility disclosures (CSRSD). The study uses CSR models for analysis of five years (2011 – 2015) data of 100 non-financial firms from different sectors listed on Pakistan stock exchange (PSX). Review of the literature reveals that liquidity of firm is one neglected variable. We expect that liquid firms' have greater stake to preserve their repute and image than firms which are illiquid or lesser liquid. Therefore, we conduct this study and include liquidity as an explanatory variable of primary interest. Moreover, relative to other countries in the world few studies are conducted in Pakistan. Hence, the current study is expected to add to the body of knowledge and provide empirical evidence to practitioners and other large body of stakeholders. In Pakistan, there is room to investigate about the factors that influence CSRSD.

Next section presents review of relevant literature, Section 3 introduces data, sample and research methodology, Section 4 presents results and analysis. Section 5 concludes the study.

REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

In today's world, to sustain and survive and reassure stakeholders of observing transparency and being concerned about community issues, businesses need to furnish information about their social activities to general public. According to Gray, Owen, and Maunders (1987) communication of social and environmental effects of firms' economic activities to stakeholders by businesses is called disclosure of social information. Firms in petroleum, gas, and chemical sectors in 1980 started providing information about their social activities. At the present, GRI-G3 published in 2006 under the aegis of Coalition for Environmentally Responsible Economies (CERES) and the United Nations Environmental Programme (UNEP) provides guidelines to firms to report their economic, social and environmental performance.

According to Gray et al. (1995) legitimacy theory and the stakeholder theory are the most efficient in explaining the behavior of firms with respect to social and environmental information disclosures by them. These two theories suggest that social and environmental information by firms are provided to maintain repute and identity (Hooghiemstra, 2000). Among the two, legitimacy theory is considered more predictive in explaining corporate social disclosure (Guthrie & Parker, 1990). Perrow (1970) defines legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, value, beliefs, and definitions". Deegan (2002) argue that being part of a wider social system, corporations act to assure stakeholders to perceive their activities as legitimate. The Legitimate theory guides managers to achieve the goal of long-term existence of firms by addressing community expectations and concerns and thus establish link between corporate social disclosure and stakeholders' concerns. Whereas according to Suchman (1995), legitimacy theory explains that an entity actions are appropriate according to the beliefs, values, and norms of its socially constructed system. According to this theory, actors may disclose information for demonstrating that their behavior is according to the requirements of the social system. Organizations must appear taking care of the interest of general public. This end can be achieved using the disclosure of financial information in annual reports. Deegan (2001) opines that societies influence companies. Hence, it is expected that firms would respond to

any changing concerns of a community and if companies fail to address these concerns then these might be penalized. Extant literature reveals that many research studies on corporate social disclosures support the explanation of legitimacy theory (see e.g. Patten, 1991; Deegan & Rankin, 1996; Woodward et al., 2001). According to this theory, corporations not only focus on interest of shareholders but also the interest of other stakeholders associated with corporation. Samy, Odemilin, and Bampton (2010) opine that in order to gain long-term returns, firms in accordance to the view of stakeholder theory, perform CSR activities. Another, the institutional theory attempts to explain that firms' actions are guided by societal values and thus attain homogeneity in their practices (Deegan & Jeffry, 2006). The current research studies on the topic of corporate social disclosures and organizations are in general guided by these theoretical approaches.

Extant literature on the topic reveals that *CSR* is dependent on several corporate attributes (see e.g. Macarulla & Talalweh, 2012; Magness, 2006; Brammer & Pavelin, 2008; and Da Silva Monteiro & Aibar-Guzman, 2009). Empirical research studies show that firm-specific characteristics affect corporate social disclosures and that the information is reported on a voluntary basis. Number of studies around the globe (Jordan, France, Egypt, Spain, Greece, Taiwan etc) report existence of differences with respect to type of industry, location, amount and methods of social information disclosure (see e.g. Abu-Baker, 2000; Wang et al., 2012; Bayoud et al., 2012; Papaspyropoulos et al., 2010; Ahmad et al., 2003; Uwalomwa & Uadiale, 2011; Ismail & Ibrahim, 2009; Echave & Bhati, 2010; Ayadi, 2004; Rizk et al., 2008; Suttipun & Stanton, 2012). In an earliest study in US by Ernst and Ernst (1978) size of firm is reported to be associated with disclosure of CSR information. Later Gray et al. (1996) confirmed the effect of size on *CSR*. In the developing and emerging markets, relative to smaller firms, larger firms are found to report more social information (Motta, 2003; Ismail & Ibrahim, 2009; Alawi & Rahman, 2011; Desoky & Mousa, 2012; Akrouit & Othman, 2013). Yao, Wang and Song (2011) analyzed data of over 800 listed Chinese firms on the Shanghai Stock Exchange for the time period of 2008-2009. They reported that firm size has a positive and significant effect on the levels of various *CSR* indicators. However, Hackston and Milne (1996) argued that along with the size of firm there is probability of other corporate attributes to consider in explaining *CSR* of firms. Accordingly, more profitable firms are observed to report more information about their social activities than less profitable ones (Moneva & Llana, 2000; Suwaidan, Al-Omari & Haddad, 2004; Hossain, Islam & Andrew, 2006; Khasharmeh & Suwaidan, 2010; Lassaad & Khamoussi, 2012; Setyorini & Ishak,

2012; Andrikopoulos & Kriklani, 2013). Juhmani (2014) documented significant effect of leverage on level of social information disclosure. Similarly, Naser, Al-Hussaini, Al-Kwari and Nuseibeh (2006) reported that business risk influences corporate social disclosure. They used leverage as a measure of business risk. Alturki (2014) in a sample of Saudi corporations found that firm size and profitability are positively association with level of corporate social disclosure, but leverage is found to be statistically insignificant. Majeed, Aziz and Saleem (2015) studies 100 Pakistani companies for the time period of 2007–2011 to examine the relation between *CSR*D and independent variables board size, board composition, ownership structure, company size and performance. They reported significant impact of various factors on *CSR*D including firm size, ownership concentration, institutions ownership, and board size.

Review of the literature reveals that liquidity of firm is one neglected variable. We expect that liquid firms are more concerned about continuity of performance and survival (subject to acceptance by the community) and therefore have greater stake to preserve their reputation and image than firms which are illiquid or lesser liquid. Therefore, we conduct this study and include liquidity as an explanatory variable of primary interest. Corporate Social Responsibility Disclosure Index (*CSRDI*) is used as dependent variable and this is calculated for all firms in the sample for the period of study from 2013 to 2017. Following the extant literature, corporate attributes such as size of firm, profitability, leverage, and liquidity are used as explanatory variables in this study. The rationale of expecting association between these corporate attributes and *CSRDI* is given in the following text.

Size of Firm

There are number of theoretical reasons that explain that relative to smaller sized firms, larger firms would more likely disclose corporate social and environmental information in annual reports. Consistent with the light of legitimacy theory, Watts and Zimmerman (1978) argue that public is more concerned about activities of large firms and these firms, in general, face more legitimacy issues. Due to their sheer size these firms are expected to play leading role in setting examples to improve general business environment. Large firms would have earned more legitimacy and reputation. However, according to agency theory, large size firms are more prone to political costs. Therefore, to reduce these costs and to mitigate its negative effects on wealth of firm, larger firms are expected to provide more information about their *CSR* activities.

The existence of this theoretical direct association is confirmed in number of empirical

studies around the globe. Majeed, Aziz and Saleem (2015) analyzed data of 100 Pakistani companies for period of 2007–2011 and reported that size of firm has direct and statistically significant impact on CSR reporting. Uyar and Kilic (2012) analyzed data of 131 manufacturing Turkish companies for the time period of 2010 and reported that firm size has positive relation with forward looking information disclosure by firms. Similarly in a sample of 800 listed Chinese firms Yao, Wang and Song (2011) find statistically significant and direct relationship between size of firm and social information disclosure by firm. Other studies that confirm this positive relationship includes Haniffa and Cooke (2005), Ponnu and Okoth (2009), Branco and Rodrigues (2008), Hossain, Islam, and Andrew (2006) and Macarulla and Talalweh (2012), Al-Ajmi, Al-Mutairi and Al-Duwaila (2015), Alkababji (2014). However, contrary to these in few studies it is reported that size of firm does not exhibit any significant association with *CSRDI* (see e.g., Maheshwari & Kaura, 2016; Roberts, 1992; Ng, 1985; and Davey, 1985).

H₁: The larger the size the more will be the CSR disclosure by a firm.

Profitability

Reporting on social activities is not without cost. However, profitable firms might actively participate in reporting social activities with the aim to put less profitable firms in a disadvantageous position and make impression on creditors so to acquire debt at lower price. In the light of legitimacy theory, profitable firms are expected to involve more in corporate social disclosure as compared to lesser profitable firms in order to continue with their performance and survive. Alsaed (2006) stated that profitable firm may also tend to disclose more information to the public for gaining reputation and goodwill. Similar prediction is made by signaling theory as well. It predicts that profitable firms are expected to signal their quality to investors relatively more readily than poor performing firms (Inchausti, 1997, Watson, Shives, & Marston, 2002). Hossain, Islam, and Andrew (2006) used data of 150 firms from 2002 to 2003 and reported that relative to unprofitable or lesser profitable, profitable (net profit margin) firms provide information about their social activities. Majeed, Aziz and Saleem (2015) in their study on CSR used number of variables such as firm performance in terms of return on assets, foreign directors, size of firm, institutions ownership, ownership concentration, and women directors.. The sample consists of 100 Pakistani companies for the time period of 2007–2011. They reported significant impact of board size, institutions ownership, ownership concentration and firm size on CSR reporting. Al-Ajmi, et al (2015)

used data of 211 non-financial firms and reported that profitability has direct association with CSR. Contrary to these findings, however, Alkababji (2014) found that firms' profitability do not influence corporate social responsibility in the case of a sample of 48 firms in the year 2012. He used Spearman Rank Correlation Co-efficient, ANOVA and content analysis model. It is hypothesized in this study that:

H₂: There is a positive relationship between profitability and the level of CSR disclosure.

Leverage

According to agency theory, increase in level of debt also increases the need of more financial information (Jensen & Meckling, 1976). Richardson and Welker (2001) explain that determinants of financial and social information are similar. According to legitimacy theory if a firm increases level of debt, it will also increase level and reporting of social activities, provided that creditors are assumed to be concerned about societal expectations. This positive association is predicted by agency theory as well. Alsaed (2006) stated that agency costs of firms increase with increase in level of debt. Therefore, to mitigate both agency costs and information asymmetries, firms with high leverage might provide more information to satisfy variety of stakeholders (Inchausti, 1997; Uyar and Kilic, 2012). Another view suggest that due to financial constrained, highly levered firms are least expected to provide more information due to its associated costs. Hence, it is an empirical phenomenon and both positive and negative relationship could be expected between leverage and CSR disclosure.

Juhmani (2014) analyzed data of 48 non-financial firms to document that social and environmental information disclosures increases with increase in financial leverage. Al-Ajmi, et al (2015) used data of 211 non-financial firms and reported that leverage has no statistically significant relationship with CSR. Chek (2013) used a sample of 120 consumer product and 34 plantation companies for the time period of 2008-2010. The study considered *CSRDI* as dependent variable and size of the company, profitability, and leverage as independent variables. He reported that leverage does not correlate with level of CSR disclosure. Similar results are reported by Razak (2015) in a sample of 166 companies for the year 2013 who found insignificant relation between leverage and *CSRDI*. It implies that debt is not the main influence for CSR disclosure. Contrary to the expected positive relationship between leverage and CSR disclosure, Sukcharoensin (2012) found in a sample of 50 non-financial firms that firms with high level of financial leverage have low level of CSR disclosures. Similarly, Uyar, and Bayyurt (2013) used data of 138 manufacturing companies to examine the relationship between few variables including leverage and CSR. They used

Ordinary Least Square (OLS) and Two-Stage Least Squares (2SLS) regressions and documented negative significant association between leverage and voluntary disclosure. Habbash (2016) in a sample of 267 firms for the time period of 2007-2011 reported that leverage is a negative determinant of CSR disclosure. Hence, the following hypothesis is formulated:

H₃: There is inverse relationship between leverage and CSR disclosure.

Liquidity

If liquid firms are assumed to be profitable as well then in the light of both legitimacy and signaling theory it could be expected that higher liquid firms would publish more information on CSR activities. However, contrary to this view the stakeholder's theory explains that lower liquid firms might report more information for the satisfaction of the stakeholders. However, empirical evidences about the association of liquidity and corporate social disclosure are inconclusive.

Samaha and Dahawa (2010) reported that level of voluntary disclosure increases with increase in liquidity of firms. But Aly, Simon and Hussainey (2010) documented absence of any significant relationship of liquidity with corporate social disclosure. Similarly, in a sample of 111 Egyptian listed firms for the period from 2005 to 2010, Hussainey, Elsayed and Razik (2011) found no correlation between liquidity and CSR disclosure. Whereas, Al-Ajmi, et al (2015) used data of 211 Kuwaiti firms and reported that liquidity has negative but statistically insignificant relationship with corporate social responsibility disclosure.

We expect that relative to signaling theory, stakeholder's theory might have more influence on behavior of firms towards CSR disclosure in Pakistan. We assume that in Pakistan debt market with respect to number of customers is shallow and there are more suppliers of funds. Moreover, due to security, political, and energy issues, economic situation of Pakistan is not offering promising growth opportunities to businesses. Therefore, firms do not face any hard challenge with respect to availability of needed capital. In addition, in general, there is no evidence that CSR is in the priority list of any major player in socio-economic or socio-political sphere. Therefore we expect that lower liquid firms might resort to report more information to earn repute, build image, and attract stakeholders. Hence, we hypothesize that:

H₃: There is inverse relationship between liquidity and CSR disclosure.

DATA AND METHODOLOGY

The data of 100 non-financial randomly selected listed firms from different sectors of Pakistan is downloaded from the official website of Pakistan stock exchange for a period of five years from the year 2011 to 2015. We also use natural log form of data and estimate regressions to cater for the larger values of standard deviations of some of the variables. Both descriptive and correlation statistics of log form of variables are therefore reported as well. Following the extant literature, the dependent variable corporate social responsibility disclosure index (*CSRDI*) is calculated for each company in the sample. The twenty-two corporate social responsibility items reported by companies in their annual reports are categorized into six sub-classes i.e., health sector, education sector, natural disaster, environmental sector, activities for employees, and product & services (see for example, Rouf (2011), Majeed, Aziz and Saleem (2015), Hossain, Islam and Andrew (2006)). The twenty two CSR items are shown in Appendix - A. Without prejudice to any of user-groups and to treat all equally we resort to unweighted disclosure approach for the measurement of the CSR items (Cooke, 1989; Akhtaruddin, Hossain, Hossain, & Yao, 2009). More specifically, CSR index (*CSRI*) is calculated as the value of the number of items a company discloses divided by total value that it could disclose multiplied by 100. If information on an item is disclosed, it is given a value of one and zero otherwise. In the Eq. [1] below d is 1, if the item is disclosed by firm i and zero otherwise and n refers to total number of items that a firm could report.

$$CSRDI = \sum_{I=0}^n \frac{d_I}{n} \quad [Eq: 1]$$

Relative to smaller firms, large firms are under more public scrutiny, hence large firms are expected to disclose more corporate social responsibility information. Results reported by Yao, Wang and Song (2011), Al-Ajmi, Al-Mutairi & Al-Duwaila (2015), and Alkababji (2014) in their research studies support the above stated relationship. However, Rouf (2011), Maheshwari and Kaura (2016), and Bayoud, Kavanagh and Slaughter (2012) found that size of firm is not significantly associated with the *CSRDI*. Size (*SIZ*) of firm is measured as natural logarithm of total assets. The literature reveals that different measures of profitability used in different studies produce variation in results. Hence, we use three different proxies i.e., return on asset (*ROA*), return on equity (*ROE*), net profit margin (*NPM*). This will also help to find if the results of these different measures of profitability vary in the same sample or not. *ROA* is measured as ratio of income after tax to total assets. *ROE* is measured as net income divided by total shareholders' equity. Previously, Uyar and Kilic (2012), Rouf

(2011), Pan, Sha, Zhang, and Ke (2014) report significant relation between return on equity and the level of corporate social responsibility disclosure. NPM is the percentage of revenue left after all expenses have been deducted from sales. Al-Ajmi et al. (2015) and Islam, et al. (2006) document that firms with relatively higher NPM disclose more information about their corporate social responsibilities' actions. NPM is calculated by dividing net sales by total sales. Firms with relatively higher leverage ratio are likely to share more information to reduce agency costs. Juhmani (2014) argue in support of direct association between leverage and CSRDI. However, Sukcharoensin (2012) report that firms with high level of financial leverage has low level of CSR disclosures. Similarly, Uyar et al. (2013), Razak (2015) also opine that leverage has negative significant association with the extent of voluntary disclosure. In this study, leverage is measured as the ratio of total debt to total equity. Finally, liquidity describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price. Previous research findings show mix results about the association between liquidity and CSRDI. For example, Al-Ajmi et al. (2015) report negative relationship between liquidity and level of CSRDI, however, Samaha and Dahawa (2010) document existence of direct association between them. Liquidity is measured as the ratio of current assets to current liabilities.

Regression Model

Following is the general form of the fixed effect regression model used to find the relationship between *CSRDI* and the included independent variables. Fixed effect model is used in the light of hausman test statistics.

$$Y_{it} = \beta_1 X_{it} + \alpha_i + \mu_{it} \quad [\text{Eq 2}]$$

In Eq 2 above, Y represents the dependent variable *CSRDI* and X is the vector of all other independent variables. Where the subscripts *i* and *t* stands for each firm and year. β is the coefficient, α is the intercept term and μ_{it} is the regression error term. The specific model is as under:

$$CSRDI_{it} = \alpha_i + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_4 LEV_{it} + \beta_5 LIQ_{it} + \beta_6 SIZ_{it} + \mu_{it} \quad [\text{Eq 3}]$$

In Eq 3 above, *CSRDI* is the symbol of dependent variable corporate social responsibility disclosure, *ROA* is return on assets, *ROE* is return on equity, *NPM* is net profit margin, *LEV* is leverage, *LIQ* is liquidity and *SIZ* is size of firm. Where the subscripts *i* and *t* stands for each firm and year. β is the coefficient, α is the intercept term and μ_{it} is the regression error term.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 2 presents descriptive statistics for the sample firms. The highest score of *CSRDI* achieved by a firm is 72.73% and the lowest score is 0% with a standard derivation of 17.22%. So the firms are widely distributed with regard to voluntary disclosure. The mean value of *SIZ* is 15.48 and a standard deviation of 1.44. The mean of the return on asset is 9.01% with standard deviation 14.82%. The mean of return on equity is 23.22% with standard deviation of 51.81% and the mean of net profit margin is 4.58%, standard deviation is 43.91% with minimum and maximum sizes of -426.26 and 551.91. As these two variables have very large values of standard deviation, therefore we take natural log of all variables. The mean of liquidity is 1.29% with standard deviations 0.92% respectively. To cater for the very large values of standard deviation particularly in the case of ROE and NPM, we take natural log of all variables. Descriptive statistics of log values of the variables are reported in Panel – B of Table 2.

Table 1
Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Panel – A					
CSRDI	481	26.2688	17.2224	0	72.7273
LEV	481	1.7789	16.6655	-292.3200	175.8000
LIQ	481	1.2889	0.9201	0.0000	7.6517
ROA	481	9.0077	14.8240	-46.7300	63.7200
ROE	481	23.2247	51.8081	-513.0800	277.6900
NPM	481	4.5800	43.9114	-426.2600	551.9100
SIZ	481	15.4796	1.4381	12.2904	19.3864
Panel - B					
LnCSRDI	462	3.0820	0.7291	1.5141	4.2867
LnLEV	452	0.3383	0.9786	-2.8134	5.1694
LnLIQ	470	0.0806	0.6434	-2.7334	2.0349
LnROA	381	2.1412	1.1134	-1.6094	4.1545
LnROE	399	3.0604	1.0929	-1.0216	5.6265
LnNPM	380	1.9458	1.0945	-1.9661	6.3134

The sample consists of 100 non-financial Pakistani listed firms for a period of 2011-2015. *CSRDI* is corporate social responsibility disclosure index calculated based on the twenty two corporate social responsibility items for each company. *SIZ* refers to size of firm and is measured as natural logarithm of total assets. *ROA*, return on assets; *ROE*, return on equity; and *NPM*, net profit margin are the three different measures of profitability. *ROA* is the ratio of income after tax to total assets; *ROE* is net income divided by total shareholders' equity; and *NPM* is calculated by dividing net sales by total sales. *LEV* is leverage and it is measured as the ratio of total debt to total equity. Whereas, *LIQ* stands for liquidity which is the ratio of current assets to current liabilities. In panel-B of the table data of all variables is in natural log form.

Correlation

The correlation matrix shows that the highest positive correlation exists between *ROA*, *ROE* & *NPM*. *ROA* and *ROE* has a correlation of 0.82 and *ROA* and *NPM* has a correlation of 0.59.

ROA and *CSRDI* has a correlation of 0.40. The correlation between *SIZ* and *CSRDI* is positive 0.39; while, *LEV* and *CSRDI* has weak negative relation (-0.15). *LIQ* has negative but weak (0.0006) correlation with *CSRDI*. Whereas, the relation between *SIZ* and *LEV* (0.20) is typical of Pakistani firms. In addition to the highest correlations of *LnROA* with both *LnROE* and *LnNPM*, in the case of natural log form data of variables, *LnLIQ* & *LnLEV* and *LnROE* & *LnNPM* show very correlations of magnitudes -0.64 and 0.57 respectively. Regression analyses are used to assess these relationships under more restrictive framework.

Table 2: Correlation Matrix

	CSRDI	SIZ	LEV	LIQ	ROA	ROE	NPM	LOG
CSRDI	1	(0.2919)	(-0.0987)	(0.1777)	(0.3249)	(0.1738)	(0.1228)	LnCSRDI
SIZ	0.3884	1	(0.0488)	(-0.0139)	(0.0662)	(0.1170)	(0.2257)	SIZ
LEV	0.1478	0.1986	1	(-0.6356)	(-0.2037)	(0.1612)	(-0.3233)	LnLEV
LIQ	-0.0006	-0.0546	-0.1738	1	(0.2590)	(-0.0643)	(0.3135)	LnLIQ
ROA	0.3950	0.1377	0.2405	0.2202	1	(0.8929)	(0.7537)	LnROA
ROE	0.3575	0.1351	0.1460	-0.0367	0.8209	1	(0.5686)	LnROE
NPM	0.1676	0.2747	0.2411	0.3753	0.5901	0.2903	1	LnNPM

The sample consists of 100 non-financial Pakistani listed firms for a period of 2011-2015. *CSRDI* is corporate social responsibility disclosure index calculated based on the twenty two corporate social responsibility items for each company. *SIZ* refers to size of firm and is measured as natural logarithm of total assets. *ROA*, return on assets; *ROE*, return on equity; and *NPM*, net profit margin are the three different measures of profitability. *ROA* is the ratio of income after tax to total assets; *ROE* is net income divided by total shareholders' equity; and *NPM* is calculated by dividing net sales by total sales. *LEV* is leverage and it is measured as the ratio of total debt to total equity. Whereas, *LIQ* stands for liquidity which is the ratio of current assets to current liabilities. Correlation of variables in natural LOG data form is shown in brackets in the upper right-angle triangle of the table.

Regression Results and Hausman Fixed and Random Effect Test

Prior to estimation of the model we run diagnostic tests to ensure reliability of the results. For the data to be used in regression analysis it is assumed that data is normal. We remove outliers and extreme values from the given set of data if the value of a variable cook's d statistic is greater than 4. Another assumption of the regression analysis is that there is no relation between any two independent variables. We use VIF (Variance Inflation Factor) test to check for multicollinearity. The test results in Table 4, in case of data without

transformation (original data) show that mean values of VIF are less than 10 and suggest that there is no statistical relation between the independent variables. However, in case of LOG form of data VIF values are indicative of presence of multicollinearity for *LnROA* and *LnROE*. In addition, p values of Breusch-Pagan / Cook-Weisberg test are greater than .05 suggestive of absence of heteroskedasticity.

Table 3: *VIF Test of Multicollinearity*

Original Data		LOG Data	
Variable	VIF	Variable	VIF
ROA	1.71	LnROA	21.81
ROE	1.43	LnROE	16.62
NPM	1.24	LnNPM	3.47
LIQ	1.19	LnLIQ	3.12
LEV	1.08	LnLEV	1.89
SIZ	1.04	LnSIZ	1.09
Average VIF	1.28	Average VIF	8.00

Table 5 presents results of nine different models. The columns' headings are so stated to show the form of data of variables, estimation technique used, and variables excluded from the model. In both cases of models i.e., 2a and 2b, *ROA* is dropped due to its high correlation with *ROE*, whereas in model 3 *ROE* is not included. Models 4 to 8 are based on log form of data of variables and *LnROA* & *LnROE*, *LnLEV* & *LnLIQ* are dropped due to their correlation with each others. It is a critical issue in panel data-based regression models to determine appropriate estimation technique given that fixed or random effects (FE & RE) might influence results. Hence, Hausman test is used to determine if FE or RE estimation technique will be appropriate. The test suggests that FE estimation technique shall be used if p-value of the test is less than 0.05, and otherwise RE estimation shall be used. Except in model 2, test statistics in all cases are well below 0.05 and therefore results of FE model are preferred and discussion of results is based on them. However, in model 2 its value is 0.071 and therefore, we report results of both FE and RE. Values of R^2 and number of total observations are also reported.

Table 4

Regression Results of CSRDI and Explanatory Variables

	(1)	(2a)	(2b)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Original FE	Original Excl ROA FE	Original Excl ROA RE	Original Excl ROE FE	LOG FE	LOG Excl ROA FE	LOG Excl ROE FE	LOG Excl LEV FE	LOG Excl LIQ FE
LEV	-0.0096 (0.0236)	-0.0218 (0.1491)	-0.0045 (0.1360)	-0.0232 (0.1490)	0.0193 (0.0615)	-0.0884* (0.0506)	-0.0545 (0.0484)		0.0311 (0.0634)
LIQ	-0.0955 (0.7549)	0.3250 (0.8219)	0.3390 (0.7620)	0.1408 (0.8267)	-0.0926 (0.0859)	-0.0432 (0.0833)	-0.0658 (0.0852)	-0.0970 (0.0846)	
ROA	0.1036** (0.0495)			0.1873** (0.0767)	0.4904*** (0.1647)		0.2141*** (0.0812)	0.4607*** (0.1346)	0.4720*** (0.1680)
ROE	-0.0025 (0.0091)	0.0749*** (0.0280)	0.0921*** (0.0248)		-0.3034* (0.1577)	0.1166 (0.0768)		-0.2726** (0.1231)	-0.2555 (0.1625)
NPM	0.0002 (0.0113)	-0.0984 (0.0979)	-0.0665 (0.0768)	-0.1157 (0.1035)	- (0.0926)	-0.1631* (0.0885)	- (0.0924)	- (0.0921)	- (0.0964)
SIZ	6.9328*** (1.2664)	7.5070*** (1.4137)	5.9346*** (0.8733)	7.7811*** (1.4262)	0.3634*** (0.0692)	0.3233*** (0.0684)	0.3564*** (0.0694)	0.3621*** (0.0689)	0.4031*** (0.0712)
Constant	-81.7835*** (19.7447)	- 89.6732*** (22.1491)	- 66.6227*** (13.6702)	- 93.5619*** (22.3063)	-2.0551* (1.0844)	-1.8189* (1.0878)	-2.2133** (1.0871)	-2.0544* (1.0824)	-2.7638** (1.1108)
Hausman Stat	24.84	10.17	10.17	15.73	26.30	20.02	26.36	26.68	25.20
(P Value)	(0.0004)	(0.0706)	(0.0706)	(0.0077)	(0.0002)	(0.0012)	(0.0001)	(0.0001)	(0.0001)
Observations	481	379	379	383	338	342	338	338	344
R-squared	0.0850	0.1056	0.0932	0.1024	0.1244	0.0914	0.1112	0.1240	0.1257
Number of id	100	89	89	91	85	85	85	85	86

Results of regressions are based on the sample of 100 non-financial Pakistani listed firms for the period 2011-2015. Dependent variable *CSRDI* is corporate social responsibility disclosure index calculated based on the twenty two corporate social responsibility items for each company. *SIZ* refers to size of firm and is measured as natural logarithm of total assets. *ROA*, return on assets; *ROE*, return on equity; and *NPM*, net profit margin are the three different measures of profitability. *ROA* is the ratio of income after tax to total assets; *ROE* is net

income divided by total shareholders' equity; and *NPM* is calculated by dividing net sales by total sales. *LEV* is for leverage and it is measured as the ratio of total debt to total equity; whereas, *LIQ* stands for liquidity which is the ratio of current assets to current liabilities. Standard errors are reported in the brackets with coefficients values. *significant at 10%; ** significant at 5%; *** significant at 1%.

In Table 5, results show that leverage is negatively related to *CSRDI* and *LnCSRDI*, but it is significant at 10% only in model 5. However, in model 8, when *LnLIQ* is dropped due to its correlation (-0.64) with *LnLEV* then *LnLEV* shows insignificant positive association with *LnCSRDI*. Moreover, inclusion or exclusion of *LnROA*, *LnROE*, and *LnNPM* do not change these results and therefore we include these variables in the regression. Thus, as hypothesized, high leveraged firms face difficulty to involved themselves in corporate social responsibilities and its disclosure, however, these results are statistically insignificant. Consistent with the stakeholders' theory that lower liquid firms might report more information for the satisfaction of the stakeholders, liquidity is inversely related to corporate social disclosure in five of the nine cases. But it is statistically significant in none of the regressions. Moreover, these findings are in contrast to the explanation of both legitimacy and signaling theory which suggest that higher liquid firms would publish more information on CSR activities. These findings on Pakistani sample of firms do not match with the results of Sukcharoensin (2012), Al-Ajmi et al. (2015), Uyar, Kilic and Bayyurt (2013), Razak (2015), Uyar and Kilic (2012), and Samaha and Dahaw (2014) who reported positive association between the overall level of voluntary disclosure and liquidity. Among the three measures of profitability, *ROA* (*LnROA*) shows persistent positive and statistically significant association with the dependent variable. This means that more profitable firms disclose relatively more information about their corporate social activities than lesser profitable firms in Pakistan. *ROE* shows positive and significant association with *CSRDI*; but *LnROE* then is inversely associated with *LnCSRDI*. In addition, significance level of *LnROE* also decreases. The third measure of profitability is persistently inversely related to corporate social disclosure and this relationship becomes the stronger in the case of regressions with log values of the variables. From the behaviors of these different measures of profitability, we conclude that *ROA* is the most appropriate and robust measure of profitability with respect to determining corporate social disclosure by firms in Pakistan. In fact, the other two measures are not reliable due to its varying behaviors either due to inclusion (exclusion) of other variables in a model or due to use of different forms of data of variables in a regression.

Among the variables selected in this study, size is the most stable of all. As hypothesized, *SIZ* is significantly positively related to *CSRDI* (*LnCSRDI*). This implies that relative to smaller firms, large size firms disclose relatively more information about their corporate social activities. The positive association of return on assets and size of firm is in line with the explanation of legitimacy theory. Moreover, these results of *ROA* and *SIZ* are parallel to the findings of prior studies (see e.g., Majeed et al., 2015; Yao et al., 2011; Hossain et al., 2006; Al-Ajmi et al., 2015; Mukhtaruddin et al., 2014; Rouf, 2011; Alkababji, 2014). In general, result of *ROE* is similar to those reported by Uyar and Kilic (2012), Rouf (2011), Pan et al., (2014). The negative and statistically significant results of *NPM* are in contradiction to the findings of prior studies (see e.g., Chek, 2013; Rouf, 2011). The lower values of R^2 , ranging from 8.5% to 12.6% suggest that there are some other explanatory factors that might explain variation in corporate social disclosure by firms in Pakistan.

CONCLUSION

In this study panel data from year 2011 to 2015 of 100 Pakistani listed non-financial firms is analyzed through fixed effect regression model to investigate effect of size of firm, profitability, leverage, and liquidity on corporate social responsibility disclosure by firms. Fixed effect regression technique is used in the light of results of Hausman fixed effect and random effect test. It is found that return on asset and corporate size is significantly and positively associated with corporate social responsibility. Leverage and liquidity are found to have inverse but insignificant association with corporate social responsibility disclosure; where result of liquidity is in line with the explanation of stakeholder theory. Moreover, among the three different measures of profitability, return on asset is observed as the most robust determinant of corporate social disclosure by firms in Pakistan.

It is suggested that future research on the topic shall use corporate governance as potential explanatory variable. Moreover, future research studies shall also consider managers' ethics, and beliefs, etc. within the internal environment of a firm that can impact the social activities performance of firms. Similarly, in the external environment of firms such as political, social, and economic influences and/or influence of pressure groups, general public, and competitors etc. could also affect firms' social activities.

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TESTING THE PERCEIVED ORGANIZATIONAL POLITICS AND OUTCOMES WITH MODERATING ROLE OF HONESTY-HUMILITY PERSONALITY DIMENSION USING SMART PLS APPROACH

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ABSTRACT

The objective of the study was to test the effects of perceived organizational politics with moderating role of humanity-humility dimension among public sector employees in Pakistan. The study utilized quantitative methodology and used survey for primary data collection. Convenience sampling is used to collect data from 123 employees working in various public sector organizations. We used Cronbach alpha and composite reliability for establishing reliability and convergent validity and discriminant validity for establishing content validity. For analysis we used the Smart PLS approach and product method of moderation. Our results indicate that there is high level of perceived organizational politics in selected organization confirming that high level of organizational politics exists in public sector organizations in Pakistan. Furthermore, results indicate that perceived organizational politics has negative and significant effects on employee job satisfaction ($\beta = -.962$, $P < .05$); and humanity-humility dimension is having positive and insignificant effects on employee job satisfaction ($\beta = .258$, $P > .05$). Furthermore, our results indicate that humanity-humility dimension negatively and significantly moderate the relationship between perceived organizational politics and employee job satisfaction. Our results have various implications for management.

Keywords: Organizational Politics, Job Satisfaction, Humanity humility, Personality Traits,

Public Sector, Pakistan, Smart PLS.

INTRODUCTION

Organizational politics is a phenomenon common in most organizations in the developing countries and Pakistan is no exception. More specifically, organizational politics is very common in public sector organizations resulting in rivalries, inefficiencies, and other negative outcomes. The human side of organizational politics is that it negatively influences staff both physiologically and psychologically. The negative effects of organizational politics on employee performance are also evident. In this study, we investigate the effects of organizational politics on employee job satisfaction with moderating role of honesty-humility dimension.

Objectives of the Study

The objectives of the study are as follows.

- To measure the effects of perceived organizational justice on employee job satisfaction
- To test the moderating role of honesty-humility for the relationship between organizational justice and employee job satisfaction

Significance of the Study

The significance of the study is that it can be used to understand how and which personality traits of employee's plays important role in reducing negative outcomes of organizational politics. The findings can provide useful insights about moderating role of personality traits in resisting negative organizational politics outcomes.

LITERATURE REVIEW

Organizational Politics

Organizational politics refers to the illegitimate, unsanctioned behavior within the workplace that is intended to maximize one's self-interest (Chang, Rosen, & Levy, 2009). The concept is based on employee perception and is gaining increased attention of the researchers. There are two school of thoughts about organizational politics. One school of thought consider organizational politics as beneficial; while, other consider it as dysfunctional having negative influence on employees (Cropanzano, Howes, Grandey, & Toh, 1997). Previous studies indicate that if higher level of organizational politics exist in organization, it negatively effect employees performance (Kacmar & Carlson, 1997). Other negative outcomes include increased stress, decreased productivity, and increased counterproductive behavior and so on.

Job Satisfaction

Job satisfaction is about an affective and emotional response to various facets of individual's job (Kreitner, Kinicki, & Buelens, 2002). Job satisfaction is an important employee related outcome and is commonly found in HR literature. Previous studies indicate that job satisfaction is influenced by various factors including good reward practices by organization, availability of promotion opportunities, supervisory behavior, learning opportunities, and so on (Oladele & Mabe, 2010; Sousa-Poza & Sousa-Poza, 2000; Judge & Klinger, 2008). The opposite of job satisfaction is job dissatisfaction and it occurs when there is low recognition, inflexibility in working hours, lack of job security, weak salary and working conditions and so on (Oladele & Mabe, 2010; Bokti & Talib, 2009). The importance of job satisfaction is that it is found to be producing favorable employee outcomes including reduced grievance, reduced absenteeism, reduced turnover among staff, higher productivity, and good customer service (Collins, Jones, McDonnell, Read, Jones, & Cameron, 2000; Okpara, 2004).

Effects of Perceived Organizational Politics on Employees

Previous studies show that perceived organizational politics has mostly negative employee outcomes including behavioral and attitudinal. These negative outcomes include reduced job satisfaction (Miller, Rutherford, & Kolodinsky, 2008); feeling of strain (Chang, et al., 2009); and counterproductive work behavior (Zettler & Hilbig, 2010). Job satisfaction is important variable and perceived organizational politics is found to be negatively affecting job satisfaction (Miller, et al., 2008).

Honesty-Humility as Moderator

According to Ashton and Lee (2007), honesty-humility is based on HEXACO personality model and is one of the six dimensions mentioned in the model. The HEXACO model is a better model to understand personality since it includes the honesty-humility dimension, something which is not present in the other personality models such as Big Five personality model. The explanation of honesty-humility model is such that individuals who have low score on honesty-humility dimension are those who are less honest and tend to flatter other or manipulate for obtaining some personal benefit. On the other hand, individuals who have higher score on honesty-humility dimension are those who follow rules and do not feel tempted to bend the rules for personal profit (Lee and Ashton, 2004). The dimension is found to be associated with negative ethical behavior and criminal activity (Lee, Ashton, Morrison, Cordery, & Dunlop, 2008; Ashton and Lee, 2008). A low score on honesty-humility means

individuals are more likely to break rules, cheat, manipulate and involve in political behavior for taking personal benefit. Previous studies shows that humanity-humility dimension can play some moderating role between the relationship between perception of organizational politics and employee outcomes. For example, a study conducted by Zettler and Hilbig (2010) investigated the relationship between POP and counterproductive work behavior moderated by honesty-humility variable. Another study conducted by Wiltshire, Bourdage, and Lee (2014) also investigated the relationship between organizational politics and employee workplace outcomes moderated by honesty-humility. This study found that honesty-humility moderates the relationship between perception of organizational politics and employee counterproductive work behavior and impression management. The relationship between honesty-humility is such that if there is higher organizational politics exist in organizational environment, individuals having low honesty-humility score will find it useful to involve in organizational politics in order to gain some personal benefit. In other words, such individuals will find this as an opportunity to involve in organizational politics for personal gain.

Theoretical Framework of the Study

The theoretical framework of the study is based on the trait activation theory (Tett & Burnett, 2003). The theory is based on the premise that if individuals possess certain traits and find similar cues in the environment, it will activate the relevant behavior consistent with those traits. Previous studies on perception of organizational politics also used trait activation theory for providing support to the relationship between core self-evaluation and task performance moderated by perceived organizational politics. Based on previous studies, and trait activation theory, we propose the following theoretical model consist of perceived organizational politics (POP), humanity-humility dimension, and employee job satisfaction. In this model, POP is an independent variable, humanity-humility is a moderator, and employee job satisfaction is a dependent variable.

RESEARCH METHODOLOGY

Research Design

The design of the study is cross-sectional means data is collected at one time interval from the participants. The design is explanatory since we attempts to explain the relationship between variables of interest.

Population and Sampling

The focus of the study is public sector organization so all public sector employees makes the population of the study. For sampling, we used the sampling frame based on two selected public sector organizations. These are national level organizations having operations in almost entire country. For sampling, we used the convenience sampling means data is collected from respondents who were easily accessible to the researcher. Based on the Bartlett, Kotrlik, and Higging (2001), sample size calculator, our required sample size is 119.

Data Collection Instrument

Survey questionnaire is used for collecting primary data from the participants. For this purpose, we used the perceived organizational politics scale developed by Kacmar & Carlson (1997). This scale consist of 15 items. For measuring the honesty-humility personality dimension, we used the HEXACO Personality Inventory (HEXACO-60) developed by Ashton and Lee (2007). In this measure, there are 10 items each for 6 personality dimensions making a total of 60 items. Since we only included the honesty-humility dimension so we only used 10 items from this inventory for measuring the honesty-humility dimension. Job satisfaction is measured by 4 items adapted from Griffin, et al., (1996).

Reliability and Validity

We used the Cronbach alpha and composite reliability for measuring the reliability of the variables, while, we used the convergent and discriminant validity for establishing the validity of the measures involved. For this purpose, we used the SmartPLS version 3. More details are given in the results section.

Data Analysis

Data is collected and checked for any error or discrepancies. SPSS version 20 is used for demographic details, while, Smart PLS version 3 is used for assessment of measurement model and structural model.

Ethical Issues

Ethical issues including privacy of the participants, no deception, no harm, no use of force were maintained while data collection for this study.

RESULTS

Demographic Results

Demographic information of the participants are discussed as follows.

Table 1: *Demographic Information of the Survey Participants*

	Frequency	Percentage
Gender		
Male	77	60.6
Female	50	39.4
Age		
18 to 30	17	13.4
25 to 40	62	48.8
40 to 50	32	25.2
50 to 60	16	12.6
Qualification		
Intermediate or Less	24	18.9
Bachelor	58	45.7
Master	44	34.6
Above Masters	1	.8
Job Role		
Clerical	18	14.2
Middle Management	49	38.6
Top Management	28	22.0
<u>Others</u>	<u>32</u>	<u>25.2</u>

There were total of 77 male and 50 female participated in our survey. In terms of age, 17 participants belonged to the age category of 18 to 30 years of age; 62 belonged to the 25 to 40 years of age; 32 belonged to the 40 to 50 years of age; and 16 belonged to the 50 to 60 years of age. In terms of qualification, 24 had intermediate or less qualification; 58 had bachelor level qualification; and 44 had master level qualification. Based on job role, 18 belonged to the clerical job; 49 belonged to the middle management; and 28 belonged to the top management category.

Measurement Model

Smart PLS version 3 is used for establishing the reliability and validity of the model. Reliability is established using the Cronbach alpha and composite reliability as proposed by Fornell and Larckers (1981) and Cronbach criteria. Furthermore, we used the factor loading and average variance extracted (AVE) for establishing the convergent validity. Our results are given below.

Table 2: *Assessment of Reliability and Validity*

	Item	Factor Loading	Cronbach Alpha	Composite Reliability	AVE
Perceived Organizational Politics	OP1	0.917			
	OP2	0.621			
	OP3	0.841			
	OP4	0.905			
	OP5	0.924			
	OP6	0.927			
	OP7	0.840			
	OP8	0.951	.975	.977	.743
	OP9	0.895			
	OP10	0.902			
	OP11	0.861			
	OP12	0.809			
	OP13	0.716			
	OP14	0.866			
	OP15	0.896			
Honesty-Humility Dimension	HH1	0.876			
	HH2	0.923			
	HH3	0.872			
	HH4	0.738			
	HH5	0.742	.955	.961	.714
	HH6	0.758			
	HH7	0.737			
	HH8	0.937			
	HH9	0.920			
	HH10	0.907			
Job Satisfaction	JS1	0.815			
	JS2	0.823	.873	.912	.722
	JS3	0.835			
	JS4	0.921			

Our results show that all items had factor loading of above 0.60 and AVE of above 0.50 which show that our model had good convergent validity. Furthermore, all variables had Cronbach alpha and composite reliability of above 0.60 so it indicates that good reliability is

established.

Table 3: *Discriminant Validity*

humanity-humility Dimension		Job Satisfaction	Perceived Org Politics
humanity-humility Dimension	0.845		
Job Satisfaction	-0.626	0.850	
Perceived Org Politics	0.878	-0.648	0.862

Our results indicate that discriminant validity is established in our study. This is based on criteria that squared average variance extracted of individual factor should be greater than inter-correlation (Hair, Hult, Ringle, & Sarstedt, 2014). As the diagonal bold values which are squared of AVE are greater than other values in its respective column so it indicate that our variables had good discriminant validity.

Assessment of Inner Structural Model

For testing the inner-structural model, we used the Smart PLS Moderation approach using the consistent bootstrapping using the product approach. Our results are as follows.

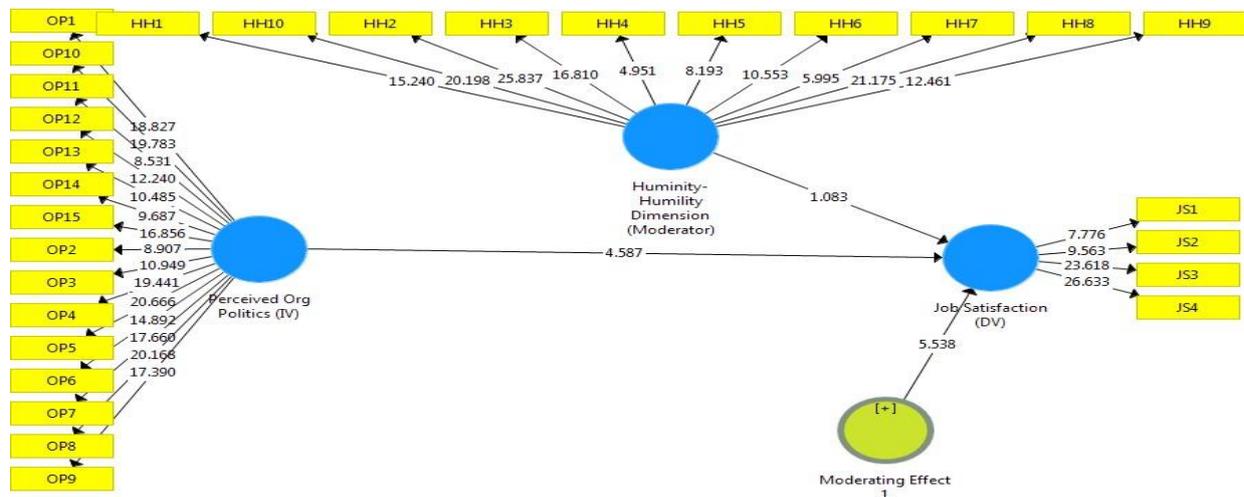


Figure 1: *Final Structural Model*

Table 4: Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
humanity-humility Dimension > Job Satisfaction	0.258	0.268	0.226	1.142	0.254
Moderating Effect 1 -> Job Satisfaction	-0.645	-0.642	0.118	5.474	0.000
Perceived Org Politics -> Job <u>Satisfaction</u>	-0.962	-0.971	0.208	4.624	0.000

Our results indicate that perceived organizational politics has negative and significant effects on employee job satisfaction ($\beta = -.962$, $P < .05$). Similarly, humanity-humility dimension has positive but insignificant effects on employee job satisfaction ($\beta = .258$, $P > .05$). Furthermore, our moderation results indicate that humanity-humility dimension negatively and significantly moderate the relationship between perceived organizational politics and employee job satisfaction ($\beta = -.645$, $P < .05$). Our results shows that perceived organizational politics negatively affect employee job satisfaction and personality dimension of humanity-humility dimension do moderate this relationship.

Discussion

Our objective was to measure the effects of perceived organizational politics on employee job satisfaction and testing moderating role of humanity-humility dimension between this relationship. Our results shows that perceived organizational politics negatively effects employee job satisfaction. This result is consistent with the finding of previous studies which states that perceived organizational politics negatively influence employees well-being and related to other employee outcomes such as job satisfaction, commitment, and motivation (Chang, et al., 2009; Zettle & Hilbig, 2010). Furthermore, our results implies that humanity-humility dimension moderate the relationship between perceived organizational politics and employee job satisfaction. Previously two studies found that humanity-humility dimension moderate the relationship between perceived organizational politics and employee job satisfaction (Zettler & Hilbig, 2010; Wiltshire, et al. 2014). The relationship is also supported by the trait activation theory (Tett & Burnett, 2003).

CONCLUSION

On the basis of the findings of the study, it can be concluded that organizational politics is a negatively phenomenon and do not lead to very favorable employee outcomes. Furthermore it can also be concluded that personality dimension of humanity-humility moderate the relationship. In other words, individuals who are low on the dimension of humanity-humility can reduce the negative impact of organizational politics since such individuals may enjoy the organizational politics or use it for their own benefit. It is also likely that such individuals may consider the organizational political environment as an opportunity for obtaining their own goals. The results also highlight that if individuals who have high score on humanity-humility dimension are likely to suffer more in work environment characterized by organizational politics.

Recommendations

The study put forward the following recommendations

- Public sector organizations need to reduce organizational politics.
- Public sector organizations leadership should work on reducing politics.
- Formal procedures, policies, and practices may be developed in order to reduce organizational politics.
- Personality characteristics such as humanity-humility can be used during the staff selection process.

Limitations

The limitations of the study is that it only focused on public sector organizations in Pakistan. The limitation also include selection of single moderator and single dependent variable.

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IMPACT OF INTELLECTUAL CAPITAL ON ORGANISATIONAL PERFORMANCE IN SOFTWARE INDUSTRY OF PAKISTAN

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ABSTRACT

This study is designed to investigate impact of intellectual capital and its components (i.e. human capital, structural capital, relational capital) on organizational performance of software industry. SEM multivariate technique was used for analyses of data collected from software houses of Pakistan through perceptual measures. The study reveals and confirms impact of intellectual capital and its components on organizational performance. Study found that Human capital and relational capital have higher impact on performance as compared to structural capital.

Keywords: Intellectual Capital, Knowledge Management, Human Capital, Structural Capital.

INTRODUCTION

Intellectual capital is considered as an important source of gaining competitive advantage in knowledge based economy, but still until recent acknowledgement of its importance in knowledge intensive industry many organizations failed to realize its value and nature.

Stewart (1997) has narrated that many organizations have observed intellectual capital, but it has been understood by a few and perhaps no any organization has given it its due importance.

The state of hyper competition, technological advancements and globalization has considerably modified management philosophy and practices. In the knowledge intensive sectors intangible assets which are responsible for creation of value for the firm are rapidly gaining importance. In recent years the share of intangible assets as a proportion of total assets is also observed to have enormously increased. Many firms now realize and acknowledge significance of intangibles and are showing keen interest in analyzing, valuing and reporting of intellectual capital.

In extremely competitive markets, acquisition of valued intangibles is strategy for gaining competitive advantage and it is an indicator for efficiency of the firm. Researchers and academicians have produced empirical evidence for the importance of intellectual capital towards achieving economic goals in an intense globalised competition (Serenko and Bontis, 2004, 2009, Huang, and Liu, 2005).

The term intellectual capital includes almost all intangible assets possessed by the firm which can generate value for the firm. Human capital includes capabilities and expertise of human resources and structural capital includes knowledge in embedded processes of the firm. Relational capital means knowledge imbedded in relationships of the firm with outside stakeholders.

Human intellect is like backbone for knowledge intensive industries. Software industry depends highly on innovation capability of its human resources. As Griffith at al. (2006) states that creativity is also an important ingredient for performance, and its importance to economic efficiency of firm has always been acknowledged.

This study is designed for finding association of intellectual capital and performance of software firms. Basic structure of the study is based upon model initially proposed by Bontis (1998); according to which human capital, structural capital and relational capital are components of intellectual capital. This study uses structural equation modeling technique for investigation of nature of relationship of mentioned three components of intellectual capital with organizational performance.

Objectives of the Study

The core objective of the study is to evaluate relationship of Intellectual capital with organizational performance. Other specific objectives of the study are:-

- To analyze association of intellectual capital and organizational performance in context of software industry of Pakistan.
- To observe phenomena of intellectual capital objectively through quantified technique.
- To observe and compare impact of human capital, structural capital and relational capital on organizational performance.

Significance of the Study

Knowledge Based View of the firm perceives firm as constantly evolving system which produces and utilizes knowledge. Proper management of knowledge becomes harder when is not properly observed because it is familiar notion that “what is measured, is managed”. This study provides empirical evidence of nature and importance of intellectual capital and its components; which will help academicians and students in analyzing construct of intellectual capital and its association with performance output. Further the management and decision makers of firms can seek awareness about contribution of each element of intellectual capital to organizational performance. The findings will provide reliable reference to stakeholders of software industry about importance of intellectual capital to software sector.

LITERATURE REVIEW

Due to cut throat competition in global economy, there is a worldwide consensus that intellectual capital is a most important ingredient for achieving objective of economic growth (Huang and Liv, 2005). The literature of intellectual capital is largely focused on the dividends of leveraging and controlling intellectual capital for the sack of achieving performance objectives and competitive advantage. But there still is very little understanding about how intellectual in itself contributes to value creation in an organization and the nature of its impact on organizational performance (Schiuma and Lero, 2008).

There is slight consensus on comprehensive definition of intellectual capital; Main reason for this issue is that Intellectual capital has been studied from diversified perspectives. These perspectives include knowledge management, finance, accounting and innovation studies. This diversity in the field of intellectual capital also shows diversity of those practitioners or researchers who defined intellectual capital as a field of study or those who contributed to the

domain of intellectual capital.

Bontis et. al. (1999) has stated that as intellectual capital is a very vast field and covers many disciplines that is why its scope is wide but it cannot be easily valued. And also it raises the question that whether intellectual capital as a field in its self is relevant or not. Maria & Martos (2009) are of the view that there is a dire need for a precise consensus on analysis of intellectual capital because researchers in the field of knowledge management have differentiated views about the indicators for observing and analyzing intellectual capital. This is the reason that there is no any clear conclusion about credibility of dimensions of intellectual capital, but they are accepted as available evidences about this phenomenon.

Sharabati et al (2010) has stated that most of the available literature on intellectual capital has been originated from perspective of finance or accounting, and these studies in many cases tries to find out why many firms have much more worth then their book value. And what are special characteristics of intangible assets which causes this difference. Andreou and Bontis (2007) insist that intellectual capital is a real phenomenon and it is an important source towards value of any organization.

When intellectual capital improves in an organization, it improves performance of that organization. But impact of intellectual capital on organizational performance is not an easy phenomenon to be evaluated (Jardon, Martos, 2009). It indeed is very difficult task to determine quantified value of intangible resources of an organization, but relatively much difficult job is to properly assess its impact on output of organization, it in fact is a challenge to analyze whether the investment of intangible assets results higher returns (M' Pherson, 1994). And Carlucci et al (2004) argues that in many cases it is impossible to observe causal relationship of many different dimensions of knowledge with performance output.

Maria and Martos (2009) have affirmed that when an organization invests in knowledge management for the sack of improving a specific aspect of performance, it results in different types of outcomes in that organization. They have illustrated it by an example if an organization invests in intellectual capital to increase communication of knowledge then it can have direct impact on employees' behavior, and on other hand it can indirectly influence certain other aspects such as innovative thinking of employees.

Sharabati et al (2010) argue that the status of intellectual capital cannot be denied and they have cited example of Microsoft, which has great market value as compared to accounting

book value when market value is based on share price. They also have elaborated that this difference is actually output of intellectual capital assets and knowledge embedded in company.

Bontis (1998), Cabrita (2009) and Shaari, *et al* (2010) have identified three important dimensions of Intellectual capital i.e. human capital, structural capital and customer capital. Despite greater difference of opinion regarding concept of intellectual capital there is an implicit agreement among stakeholders of area of intellectual capital that it consists of human resources, structural resources and relational resources of an organization. Mention (2010) argues that domain of intellectual capital is not limited to the above mentioned three types of resources rather than the area of intellectual capital accommodates all intangible assets of an organization which can generate value for the organization.

So far two approaches to intellectual have been identified i.e. static approach and dynamic approach. Bontis *et al* (2002) and Choo and Bontis (2002) have followed static approach of intellectual capital, according to which intellectual capital contains accumulating of internal and external intangible resources that a firm have at some specific time. The other approach which is known as dynamic approach has been adopted by Kianto (2007) and Meritum (2002). According to this approach along with capturing stock of intangible resources intellectual capital also includes all those actions and activities of the organization which are taken by it for leverage of stock of intangible resources, to manage organizational learning and creation of value.

Mention (2012) states that Becker (1964) considered human capital as the most important and central component of intellectual capital. No one has disagreed with him so far. Human capital is the component which actually generates value because the employees of any firm are the source of its competence, efficiency and social relations. Intellectual property is also output of human resources (Fincham and Roslender, 2003). Fincham and Roslender (2004) have verified that almost all definitions of human capital show that human capital is related to competence level of human resources, such as their skills, knowledge and work experience. These statements further validate argument of Fernandez *et al* (2000) that human capital can never be separated from its bearer.

Edvinson and Malone (1996) have proposed the simplified definition of structural capital i.e. “knowledge which still remains in a firm after its employees have left”. Structural capital is the channel through which human capital is converted into intellectual capital. Or it can be

said that structural capital is responsible for the creation and management of knowledge and value from human capital (Edvinson and Sullivan, 1996). An individual's intellect becomes useless if it is not provided with effective processes and procedures in an organization (Bontis, 1998). Saleh and Selamat (2007) state that competitive intelligence; procedures, databases, policies and established formulas are included in structural capital.

As stated earlier that human capital is owned by human resources of organization, in contrast structural capital is owned by organization itself. Human capital cannot be separated from its bearer, while structural capital can be observed without direct influence of the individuals. Mention (2012) by citing Nelson and Winter (1982) states that structural capital includes the procedures and processes embedded in the organizational structure, and the collective perceptions about the culture, laws and routines of organization. Fernandez *et al* (2000) have specified that routine is outcome of organization's learning processes and its collective knowledge.

Information technologies for example databases, software used by firm and management information systems can also be considered as structural capital because they also complement accumulative knowledge of the organization (Bontis, 1998 cites Stewart, 1997). Structural capital works as a backbone of any firm. It contains firm's processes, policies and strategies. Structural capital also includes organizational culture and its philosophy. It is the structural capital which identifies guidelines for actors of an organization (Mention, 2012).

Relational capital means the capability of an organization to effectively communicate with its customers, suppliers and other stakeholders. Relational capital includes customer relationships and knowledge of marketing channels. As relational capital is more concerned with external environment therefore it is more challenging to develop it. Customer capital can be measured by considering its function of longevity (Bontis, 1998). Alam *et al.* (2010) have explained that customer capital can be based on customer loyalty, customer satisfaction and marketing capabilities

Empirical Research in Field of Intellectual Capital

The review of literature shows that there are mainly two techniques used for analysis of relationship between intellectual capital and performance. The first stream of study is based on "Value Added Intellectual Co-efficient" (VAIC). This method has high level of objectivity

and has been used in many sectors throughout different countries. Relationship of intellectual capital and performance is measured through financial accounts by analyzing value added capability of intellectual capital. Researchers such as Chin (2009), Ghosh and Mondal (2009) have used this method for their studies. VAIC is simple method, easily understandable, and it also can be used for benchmarking.

The other method is based on questionnaire based surveys conducted from informed stakeholders. This method studies perceptual measures. Researchers such as Bontis (1998), Cabrita and Bontis (2008), and Jardon and Martos (2009) have used this method of intellectual research. Cohen and Kaimenakis (2007) and Wang and Chang (2005) have adopted a different approach, which can be called mixed approach. They have measured performance through financial data, and evaluated intellectual capital by analyzing perception of managers.

According to Bontis (1998) the important source of human capital is human intellect, which is related to minds of human resources; that is why cannot be easily codified. Structural capital is based on knowledge embedded in processes of the firm and it includes time efficiency and information systems. The scope of structural capital is internal to the firm. Customer capital is concerned with knowledge embedded relation of firm with its customers. The scope of customer capital is external to the firm.

Bontis (1998) conducted his study in Canada by analyzing perceptions of MBA students of Ivey School of Business in the university of western Ontario. The results showed that 56.9% of variance in performance is explained by three independent variables i.e. human capital, structural capital and customer capital. All constructs have significant correlation with each other. Human capital is moderately correlated to structural capital so is human capital to customer capital. Relational capital and performance are strongly correlated with each other.

Bontis et al. (2001) analyzed 107 respondents from services and non-services industries of Malaysia using measurement scale proposed by Bontis (1998). According to them human capital is strongly correlated to relational capital. Similarly Bontis and Cabrita (2008) found that human capital is strongly correlated with structural capital. The correlation findings of Sharabati et al. (2010) are different from previous studies, because by analyzing pharmaceutical industry of Jordon he found that all constructs are strongly correlated with each other except structural capital with performance which are moderately correlated. None of these studies found any negative correlation among constructs of intellectual capital or

organizational performance.

Jordon and Martos (2009) studied impact of intellectual capital on performance in SMEs of wood industry in Argentina. They have adopted a much broader definition of intellectual capital as compared to Bontis (1998) because they also considered minimizing of costs, channeling new technologies and innovation capabilities as components of intellectual capital. Their findings show that structural capital only component of intellectual capital which has direct effect on performance, and human capital and relational capital have indirect effect on organizational performance.

Cohen and Kaimenakis (2007) analyzed intellectual capital and performance in services sector by considering fifty two SMEs which were knowledge based. They observed that hard and functional elements of intellectual capital have greater impact on performance. In contrast they could not conclusively establish impact of soft intellectual elements on firm performance. Those elements of intellectual capital which cannot be defined or expressed objectively were considered as soft elements.

Tseng and Goo (2005) also investigated relationship of intellectual capital with performance by analyzing eighty one manufacturing firms in Taiwan. They also adopted financial measures for observing performance i.e. Tobin's Q and market-to-book ratio. Their conceptual framework also included innovation capital along with other key dimensions of intellectual capital. The findings of their investigation demonstrated that innovation capital and relational capital are positively related to value of the firm.

According to the empirical investigation of Wang and Chang (2005) human capital is the most valuable component of intellectual capital. They analyzed intellectual capital in IT firms of Taiwan. Their study revealed that human capital influences process capital and innovation. Customer capital is directly influenced by process capital which ultimately impacts performance of organization.

Research of Yang and Kang (2008) also validates influence of innovation capital and customer capital on performance. They analyzed high tech and low tech firms in manufacturing sector. In high tech firms customer capital and innovation capital have interaction impact on performance. In low tech firms customer capital has higher impact on performance as compared to high tech firms, while the impact of innovation capital is not differentiated in low tech and high tech firms.

Youndt et al. (2004) operationalised intellectual capital into human capital, social capital, and organizational capital. The study investigated for relationship of intellectual profiles with organizational performance. Financial and accounting based measures of performance were used for analysis e.g. return on assets (ROA), return on equity (ROE) and Tobin's Q. The findings of study discovered that high level of performance is achieved by firms with higher values of three important dimensions of intellectual capital.

Theoretical Framework and Hypotheses

Basic theoretical framework of this study is based on intellectual capital model proposed by Bontis (1998). The theoretical model of Bontis (1998) was based on study of Onge (1996) which states that intellectual capital is composed of three elements i.e. human capital, structural capital and relational capital; and theory proposed by Stewart (1997) i.e. intellectual capital is positively associated with business performance. Later this model was further validated and confirmed by Bontis et al (2000), Bollen et al (2005), Wang and Chang (2005) and Sharabati et al (2010).

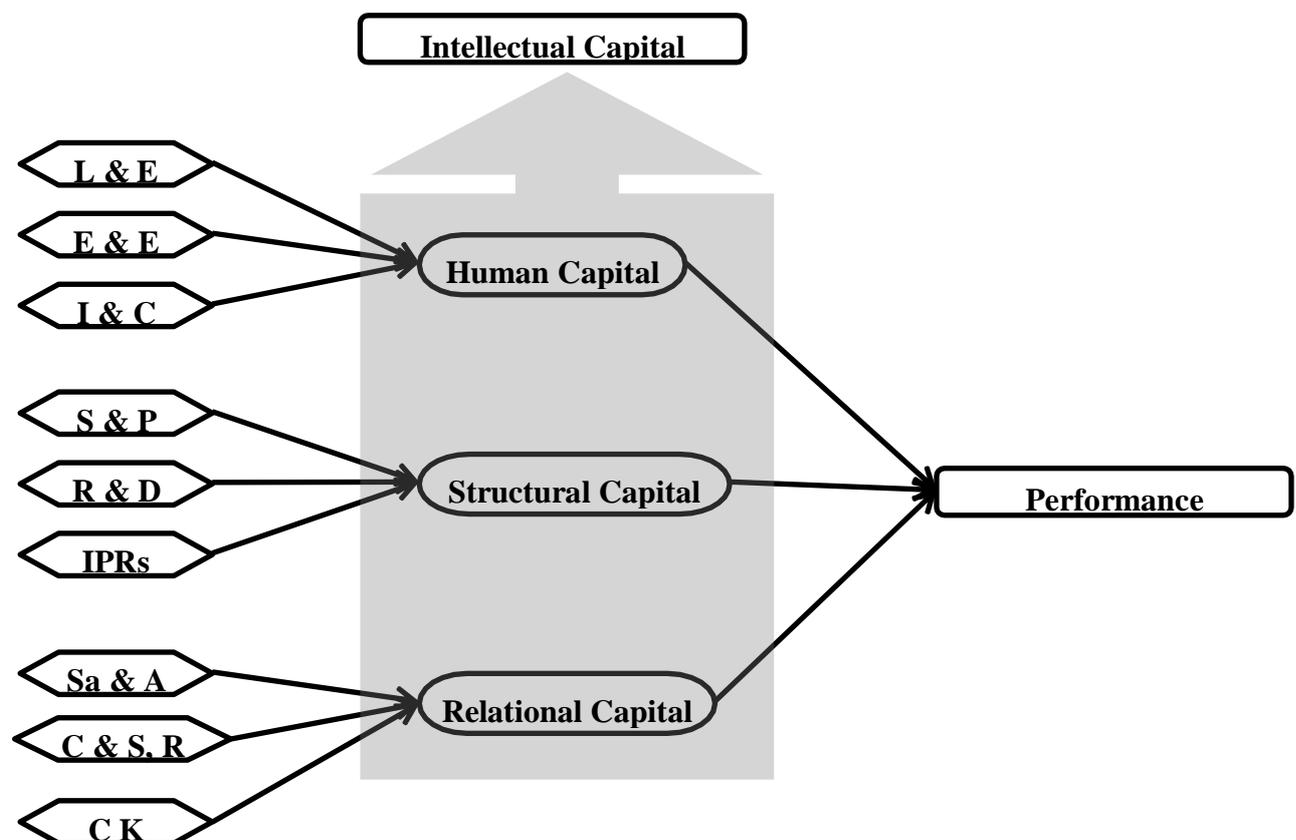


Figure 1

On the basis of discussed model and research gap for analysis of intellectual capital in software industry of Pakistan; following hypotheses can be proposed:-

Hypothesis1: Intellectual capital positively influences Organizational performance.

Hypothesis2: Human capital positively influences Performance. *Hypothesis3:* Structural Capital positively influences performance. *Hypothesis4:* Relational Capital positively influences Performance.

METHODOLOGY

In this cross sectional study, survey based technique for measuring constructs of intellectual capital and performance was used. Primary data based on perceptions of human resources of software industry was collected through questionnaires. Kannan and Aulbur (2004) analyzed almost hundred research studies in the field of intellectual capital and found that perceptual measures is the most extensively used measurement technique for analyzing intellectual capital. Further statistical tools were used for analysis of data.

Population of the Study

Total number of IT and software related firms are hard to identify because it cannot be assured that all software firms are properly registered with concerned regulatory authority. Those firms which were registered with Pakistan Software Export Board were considered as units of population. According to the data available with PSEB there are up to 15000 IT firms operating in Pakistan properly registered with PSEB. All these firms were considered as population the study.

Sampling

This study has adopted Convenience sampling technique. Employees of total forty firms were considered to be included in sample, among which fifteen firms each were considered from Islamabad and Peshawar and five firms each were selected from Lahore and Abbotabad. Five employees from each selected firm participated in the study thus total 200 participants responded to the study questionnaire.

Measurement Instrument

The measurement instrument used in this study for data collection is refined and developed form of instrument developed by Bontis (1998). This study adopts survey instrument of

Sharabati et al. (2010) which is based on hundred items, ten items have been assigned to organizational performance and thirty items each are related to human capital, structural capital and relational capital.

Data Collection

Before data collection forty software firms from Islamabad, Peshawar, Lahore and Abbottabad were confirmed to participate in study. Only those firms were included who gave their consent to participate. Five employees from each selected organization were asked to complete survey questionnaire. Questionnaires were provided to respondents by hand. As a result total 200 completed questionnaires were collected.

Analytical Tools

This study adopts Structural equation modeling technique for analysis of structural relationships and over all model fit. Structural equation modeling is Second generation multivariate analysis technique which is used to analyze the structural relationship between measured variables and latent constructs. Along with analysis of relationships among variables certain model fit indices were investigated for the model fit determination. Fit indices are analyzed to evaluate whether the model is fit to data or not. If the model is not compatible with the data then certain modification are applied to it.

RESULTS AND DISCUSSION

The overall results of study were found to be satisfactory. The model fit results were reasonably good. The findings of the study supported almost all proposed hypothesis. Measurement instrument was found to be valid and enormously reliable. Results of the study to a great extent validate findings of previous studies. Further factor loadings of almost all observed variables are greater than (>0.30); which confirms fitness and validity of the overall model.

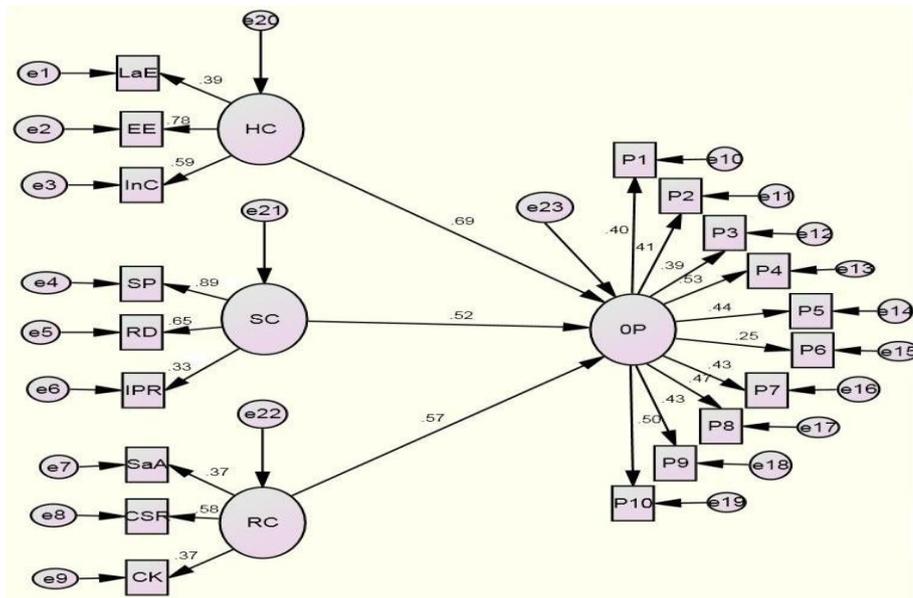


Figure 2

Model Fit Indices

Four model fit indices were evaluated for the structural equation model of the study (i.e. RMSEA, GFI, AGFI, CFI). Results of all mentioned indices showed that developed model is reasonably fit.

Table 1 : *Root Mean Square of Approximation (RMSEA)*

Model fit indices

RMSEA	0.116
GFI	0.779
<u>AGFI</u>	<u>0.718</u>
CFI	0.671

RMSEA model fit values of (0.10) and below are considered indicator of good model fit. And when this index exceeds (0.10) it weakens fit for the model. Lower values of RMSEA are considered as indicator of good fit. The RMSEA model fit index value for the model of this study is (RMSEA=0.116); which is very close to (0.10). This indicates that that model is reasonably good fit.

Goodness-of-Fit Statistic (GFI)

Statistic for goodness of fit index ranges from 0 to 1 (0-1) and its value increases with increase in sample size. GFI value greater than (0.90) is considered as indicator of best fitting model. The greater value of GFI, greater will be model fitting. GFI value of the model for this study is (0.779); which can be considered as good fit, considering limitations of field of social sciences.

Adjusted Goodness-of -Fit Statistic (AGFI)

Similar to GFI the value of AGFI also ranges from 0 to 1 (0-1), and (0.90) or greater values are considered as indicator of well-fitting models. Higher AGFI values indicate greater goodness for the model fit. AGFI value for this study is (0.718); which is reasonably closer to (0.90). This shows that model of the study is satisfactorily good fit.

Comparative Fit Index (CFI)

Value of comparative fit index also ranges from 0 to 1 (0-1); and higher values are considered as indicator of well fit. CFI values of (0.90) or greater is considered as best fit. In social sciences many researcher have adopted value from (0.60) to (0.70) as acceptable for considering model fit. CFI value for the model of this study is (0.671); which shows that model is reasonably acceptable to be considered as fit.

Table 2: *Hypothesis Testing*

Standardized Regression Weights				
Dependent variables		Independent variables	Estimate	P
Organizational Performance	<----	Structural Capital	.518	.018
Organizational Performance	<----	Relational Capital	.571	
Organizational Performance	<----	Human Capital	.692	.021
SP	<----	Structural Capital	.888	***
CSR	<----	Relational Capital	.583	.008
SaA	<----	Relational Capital	.372	.023
P4	<----	Organizational Performance	.529	.015

P5	<----	Organizational Performance	.438	.021
P6	<----	Organizational Performance	.248	.066
P7	<----	Organizational Performance	.435	.021
P8	<----	Organizational Performance	.469	.018
P9	<----	Organizational Performance	.430	.021
P10	<----	Organizational Performance	.500	.017
LE	<----	Human Capital	.394	***
EE	<----	Human Capital	.784	***
InC	<----	Human Capital	.591	
RD	<----	Structural Capital	.654	
CK	<----	Relational Capital	.371	
P3	<----	Organizational Performance	.390	.025
P2	<----	Organizational Performance	.413	.023
P1	<----	Organizational Performance	.397	.024
IPR	<----	Structural Capital	.328	.032

Hypotheses of the study were tested by considering significance level at (0.05) or 5%. Almost all p-values were found to have been less than (0.05) which meant that regression rates for Independent variables were significantly different from zero at (0.05) level {two-tailed}. First hypothesis of the study was verified later on; because its acceptance depended upon acceptance of subsequent hypotheses.

Hypothesis 2:

Standardized beta value for hypothesis is ($\beta=0.692$) which indicates that 1 standard deviation increase in human capital results 0.692 standard deviations increase in organizational Performance. *The p-value (0.012 i.e. less than 0.5) shows that* the regression weight for

human capital in the forecasting of **organisational performance** is significantly different from zero at the 0.05 level.

This higher regression rate can be attributed to the nature of industry evaluated by the study. Software industry is highly dependent on expertise and innovation capabilities of human resources. This study confirms findings of previous studies mentioned in literature that human capital is central and most crucial component of intellectual capital. Nurturing of

other components i.e. structural capital and relational capital also depends largely on efficiency of human capital.

Hypothesis 3:

The proposed hypothesis i.e. structural capital positively influences organizational performance stands accepted because the p-value (0.018) shows that the regression weight for structural capital in the prediction of organisational performance is significantly different from zero at the (0.05) level. The standard regression weight (0.571) indicates that with the increase in **structural capital** by one standard deviation, **organisational performance** increases by (0.518) standard deviations. Although this association is relatively low when compared with impact of human capital and relational capital on organisational performance but still structural capital enormously influences organisational performance.

During data collection stage it was observed that structural capitals and specifically organisational structures of many firms of Peshawar and Abbotabad were not satisfactorily developed. The findings of this study may work as an eye opener for the management and decision makers of software firms that their organizations should not rely only on human capital for achieving competitive advantage. Flourished structural capital can definitely be an edge for firms over their competitors in highly competitive environment.

Hypothesis 4:

Standardized regression weight for impact of relational capital on organizational performance is (0.57) which indicates that when relational capital increases by 1 standard deviation, organizational performance is positively changed by 0.571 standard deviations. Thus hypothesis of our study i.e. relational capital positively influences organizational performance stands accepted. Intellectual capital is highly influenced by relational capital.

The importance of relational capital is not limited to firms only associated with software industry. Every firm is required to develop sustainable relational capital for survival in market and to inflate market share. The high regression value of relational capital with performance indicates that importance of relational capital is recognized and acknowledged by respondents of the survey who are vital stakeholders of software industry.

Hypothesis 1:

As testing previous hypotheses show that components of intellectual capital (i.e.

human capital, structural capital, relational capital) positively influence organizational performance, thus it can be concluded that intellectual capital positively influences organizational capital.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Main purpose of this study was to investigate relationship of intellectual and its components with organizational performance in software industry of Pakistan. All the regression weights and p-values of structural equation model show that there is significant causal relationship between components of intellectual capital and organizational performance. Further values of model fit indices show that overall model is acceptable.

The study concluded that human capital is the most crucial component of intellectual capital as its regression weight with organizational performance is highest (0.69) as compared with other components i.e. structural capital and relational capital. Software industry highly depends on human intellect of its employees therefore it can be anticipated that human capital must be the most important component for its performance.

Relational capital also has remarkable impact on organizational performance as regression weight of relational capital with organizational performance is (0.57). Most of the time due importance is not given to structural capital by software firms; this study revealed that organizational performance is also significantly influenced by structural capital as regression weight for structural with organizational performance is (0.52).

Recommendations for future research

This study analyses impact of three components of intellectual capital on organizational performance. Although human capital has been investigated by researchers many times in Pakistani there is seldom empirical evidence as far as impact of structural capital and relational capital on organizational performance are concerned.

It is recommended that impact of structural capital and relational capital on performance can be independently investigated. Further this study can be broadened by including firms from Sindh and Balochistan. As this study only analyses software houses this research can be extended to other sub sectors of IT industry i.e. mobile application developers, digital gaming and animation industry. Other industries i.e. hotel industry of Pakistan can also be considered

for empirical investigation of intellectual capital.

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