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

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

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- Entrepreneurship
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- Leadership
- Marketing
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- Organization Behavior
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- Total Quality Management

Patron's Message

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

Prof. Nisar Ahmed Siddiqui
Sitara-e-Imtiaz
Vice Chancellor, Sukkur IBA University

Volume 5 | No. 1 | January – June 2018

Editorial

Dear Readers,

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

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

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

Dr. Khalid Ahmed
Editor-in-Chief
SIJMB

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Factors Associated with High Fertility in"Bhakkar Gabool Goth": Case Study

Sanam Wagma Khattak[1]

Abstract

Pakistan is holding only 0.67 percent of the whole world's area but has 2.63 percent of world population. In 1951 it ranked at 14th position in the world's populous countries. In 2017-18 its population has been increased to 200,813,818 million approximately five times higher. With this high population it reached to 6th most thickly populated country in the world. Human fertility is not a personal decision but it is a mixture of factors, which differ among places, according to specific conditions of particular areas & cultures. The aim of current research is to determine major factors that encourage high child ever born in urban slum area of Karachi" Bhakkar Gabool Goth". Questionnaire was filled up from 100 ever married house hold women through simple sampling method based on socio economic determinants like respondent's age and their husband's income/education level/place of childhood residence, etc. The analysis was descriptive through percentages and number distribution of respondents and later on Chi-square test was used. The average number of kids were greater than 5 and out of 23 variables discussed in questionnaire only 14 variables show significant relation with fertility level which were respondent current age, education status of respondent/ her husband, work status of respondent and her husband, types of work, age at first marriage/first birth, infant/child mortality, contraception, sex preferences and willingness of respondent/ her husband to have more kids. More family health clinics should be established particularly in slum areas, females must have proper education to encourage delayed marriages and contraception use should also be enhanced through media or health visitors.

Keywords: *Fertility, Socio-Economic Determinants, Questionnaire, Random Sample, Chi-square distribution.*

1. Introduction

Pakistan is holding just 0.67 percent of the entire world's zone however has 2.63 percent of total populace. The rise in growth of population of Pakistan depends on two factors which is slow fall of crude birth rate which was 45 per thousand in 1960 to only 27.1 per thousand in 2017-18 and second reason is low mortality rate. Another reason for high population is high fertility rate. This is estimated to be 2.62 children born/woman in 2017. Various reasons account for the slow progress in reducing the fertility rates i.e

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illiteracy, disorganized and uneven allocation of family planning facilities, inclination towards sons and fear of security in old age, etc. High fertility, low mortality and massive rural- urban migration are the main causes of over population in Pakistan. Due to rapid population growth rate Pakistan is the 6th populous country in the world and expected to be 4th by 2050 after China & India (Pakistan Population Assessment Report, 2003)[i]. Knowledge about contraception is high (about 95 percent) but contraception using rate is low (less than 30 percent). Although fertility rate has declined from 7.1 in 1960 to 3.8 in 2012-13 PDHS (Pakistan Demographic and Health survey)[ii], different socio-economic & cultural factors are responsible for high fertility rate & population growth in Pakistan.

Culture of any community and region determines the reproductive behavior of their family size, number of kids, sex preference etc but as far Pakistan is concerned women have less decision power related to family size. Husbands & their families play major role in deciding family size directly or indirectly by approving contraception or by reinforcing social values that prefer sons etc. Fertility rate of poor people are usually high but high fertility rate of women also increases risk of poor health and further put her in poor social and economic status. In 1947 its population was 32.5 million.(at the time of independence), but now its population is 200,813,818 million placing Pakistan at six populous country in the world and second largest Muslim country at current growth rate of population at 2% , one of the utmost in the world among the low economies of the world. This scenario shows a devastating factor for already scarce alarming national resources.

Problem Statement

"Economics and Fertility are closely related" is an axiom. Both Classical and Keynesian accepted this fact. Too many children would take economy to the steady or fixed state, a situation of worn- out of resources or near collapse situation, capital growth would be ceased, values of standard living would be drop"(Adamsmith1976)[iii].

Scope and Objectives of the Study

The aim of current research is to highlight major determinants causing high fertility in "Bhakkar Gabool Goth" an urban poor area of Karachi by field work to detect relevant effective policies for intervention. Accurate investigation of the above mentioned factors will be very helpful for controlling high fertility and would help to improve health status of mothers & their off spring.

2. Literature Review:

(Davis & Blake, 1956)[iv] Elaborated 11 intermediate factors which effect fertility. These 11 factors were grouped into three categories which include age of entrance into sexual relations, stable celibacy, and duration of reproduction time between unions or after unions (i.e.) when divorce, separation or death of husband causes the unions to break, voluntary abstinence, involuntary abstinence, coital frequency, conception variables which include fecundity or infecundity, use and non-use of contraception and fecundity or infecundity by voluntarily reasons (sterilization or health treatment etc.) and gestation factors which includes feotal mortality, from involuntary causes and voluntary causes. Schultz (1969)[v] presented "Determinants of fertility: Microeconomic model of choice" that variations in fertility among people are due to biological and behavioral factors which differ from people to people. Effect of socio economic & cultural factors is not the same among different population. Park (1978)[vi] categorized the fertility factors in 3 groups (i-e) "Demographic, Attitudinal, Social & Economic Residential" but they are interconnected (e.g.) The effects of these factors may vary like educated woman breast feed their children less resulting in high fertility but educated women also get marry late and use contraception which decreases fertility. Education has indirect effect on intermediate factors of fertility (i-e) breast feeding. Bongaarts (1978)[vii] further refined the list of proximate determinants. His work was an advanced over prior models because any data could be easily fitted into his model. Since Bongaart's published his first paper, more than 100 publications based on his framework in different countries & different regional settings have been published. Bongraarts shrinked 11 intermediate variables of fertility given by Davis and Black to only 8 intermediate variables which were "proportion married, contraception, induced abortion, lactationtional infecundability, frequency of intercourse, sterility, duration of fertile period and intrauterine mortality" but according to him the first 4 variables are more important as compare to others so 4 intermediate variables given by him is presented in this equation. The total fertility rate according to Bongaarts model is 15.3 , an average estimate of TF (Total fertility)

$$TFR = TF \times C_m \times C_c \times C_a \times C_i$$

"Cm is index of Non-marriage, Cc in index of contraception, Ca is index of induced abortion and Ci is index of lactational infecundability". Each index value ranges among 0-1, if the value of index is lesser than it will have larger effect on fertility variable. We can calculate each index from data available to see the influence of each index on fertility. Casterline et. al, (1984)[viii] studied the effects on fertility of 3 major proximate determinants of Bongaarts model at cross sectional study of 29 countries (America ,Asia ,Oceana ,Caribbean, & Sub Saharan Africa) i.e Contraceptive , marriage and postpartum infecundability were selected on fertility. In Africa nuptiality, contraceptive & breastfeeding are less effected by urbanity and schooling while breast feeding was

main determinant in Asia and Contraceptive was main determinant in America. Sathar, et. al, (1989)[ix] studied relationship between fertility & employment based on a survey of 1000 ever married women (680 currently working & 320 not working) in Karachi .They found that women working in high status job had almost half fertility to those of women working in odd status occupation. It means there was negative relations between fertility of women in higher status job while positive relation between fertility and lower status job. Caldwell et.al, (1992)[x] claimed contraceptive use to have strong association with fertility they also cite infant mortality and education level as significant variables. Infant mortality is perhaps the best measure of effectiveness of health services in any region or a country and is prime background factor pushing upward pressure on fertility. Cohen (1998)[xi] used Bongaarts proximate determinants frame work to argue that age at first union and contraceptive use is the most dynamic variables in determining fertility. He asserted that proximate determinants are changing very slowly and any recent fertility shifts is largely attributable to changing marriage pattern & increasing contraceptive use. Masood (1998)[xii] tried to explore social & cultural factors accounted for the importance of having children for women in Pakistani society by considering a sample of 196 currently married women from Faisalabad using triangulation strategy. The result showed that children in Pakistani society are seen as source of love, affection, satisfaction and hope for many parents. This lead to conclusion that as long as children remain the main source of security, parents will continue to entertain large family.

Khraif (2001)[xiii] studied fertility levels in Saudi Arabia and examined the effect of important demographic, social and economic variables on fertility behaviors of Saudi women by considering data from demographic survey by utilizing statistical technique and regression and found that age at marriage, women's education, child demise, son preferences and geographic regions are major fertility's determinants. While there is no relationship between female employment & fertility and also woman living in extended family has low fertility. Zafar (2002)[xiv] concluded that traditional settings & traditional point of view about family life, narrow women's autonomy, preferences for male child and lack of knowledge of Islamic teachings and values about large family formations were the vital forces accountable for speedy population growth and extended family size in Pakistan. Al -Riyami et.al, (2003)[xv] studied association between women's education & empowerment with fertility in community based survey in Oman. Face to face interview with 2037 ever married women were taken and fertility rate was dependent variable and women's education, women's empowerment were independent variables and are negatively related to fertility. Mounting education and autonomy of female are the strongest tools of demographic transition. Sharif et. al, (2007)[xvi] conducted research to observe cultural & socio-economic aspects of family size and son preferences among three localities of urban Faisalabad designed by "Federal

Bureau Of Statistics" selecting random sample of 150 females between 15-45 age with one surviving child with the help of open & close ended questionnaires by using descriptive and inferential methods. The result concluded that socio economic characteristics like women's schooling , income of the family and age at marriage had significant effect upon the family size. Adhikar, (2010)[xvii] analyzed 8641 ever married women to observe demographic, socio-economic and cultural factors of fertility in Nepal where birth rates are deceased since 1981. By using DHS data of 2006 he applied bivariate and multivariate regression to see the effect of different independent variables on dependent variable. Among educated women the number of children ever born was almost half as those of uneducated (1.9 and 3.7), rising age at first marriage seem to decease Child Ever Born by 0.15. Muslim women never exposed to media have more children than Hindu women without mass media exposure by 0.066. The poorest women had high child ever born as compare to rich by 0.12 and women with child loss experience had double number of CEB as compare to women with no child loss (= 0.31). Women who are users of contraception had higher CEB than women with no knowledge but women who used family planning had larger number of children than females who never used them so illiteracy, child loss experience and no exposure to mass media had positive and significant effect on CEB. Ushie et.al, (2011)[xviii] examined socio- cultural & economic determinants in fertility differentials between rural & urban areas of "cross river state" of Nigeria by survey design of 880 respondents by focus group discussion & bivariate & multivariate techniques and findings showed that entry age into marriage, contraception and educational status remained main determinants of fertility differential between rural/urban state so proper family planning programmes should be enhanced in rural areas. Kamal et. al, (2011)[xix] found the contributions of various socio-economic, demographic & attitudinal factors to have more than two kids. (Replacement level). They used complementary log-1og regression model and result of multivariate analysis indicated women's age, husband's education, unemployment , son preferences, contraception knowledge & use and child mortality were main cause of large family (more than two kids). Matthew et.al, (2012)[xx] assessed the contribution of selected socio-demographic characteristics on fertility in Nigerian DHS (2008) by generalized linear modeling. Education of women, Wealth Index, Place of Residence was independent variables while fertility was dependent variable. Rural women are likely to give 1.02 more births as compare to urban women. Women with no education or secondary education have 1.36 times more risk and are 17 percent more fertile than higher educated women. Societal factors have great influence on fertility in Nigeria so women's education should be enhanced. Lai et.al, (2014)[xxi] studied socio economic and proximate determinants of fertility in Philippines using 2008 DHS and found that younger age at first marriage and limited utilization of modern contraception were main reasons for the higher fertility among poor about one in the three poor women had unmet family planning need, so women from poorest quintile had almost double

children as those for richest quintile (9.0 versus 2.2) so frequent and unplanned pregnancies are of public health concern in Philippines. Khalique et. al, (2014)[xxii] used both primary & secondary data through structured questionnaire of 250 respondent from Faisalabad city and found education of mother had significant effect on women's fertility .Nasir et. al, (2015)[xxiii] used multiple data sources like 1990, 2006 & 2012 PDHS & Pakistan Resource & Health Survey of 2000-01 (PRH) and Family planning survey .Bongaarts model was used at regional levels of Pakistan and result indicated that marriage index (Cm) & contraceptive index (Cc) were found to be associated with fertility decline in Pakistan, and two provinces Punjab & Baluchistan were ahead in fertility transition as compare to other regions). Kushum et. al, (2016)[xxiv] used national survey data from 1976 to 2011 to find fertility trends, levels & differentials by using decomposition analysis and Bongaarts model of 1978 in Nepal using some socio-economic determinants & found that fertility had a sustained decline from 5.1 per women in 1991 to 2.6 in 2011. This fertility decline is more in urban areas as compare to rural due to contraception use, rising age at marriage, increase in male migration & induced abortion. Singh et.al,(2017)[xxv] studied the determinants of population growth in Rajasthan (India) and concluded that there are many demographic and socio – economic factors responsible for population growth such as mortality rate, crude birth rate, and crude death rate amongst other factors. Nyoni(2018)[xxvi] noted that Pakistan Continues to be a victim of population growth. Employing the Ordinary Least Squares (OLS) the study seeks to uncover the determinants of population growth in Pakistan over the period 1960 – 2017. Diagnostic tests were carried out in order to verify the statistical appropriateness of the estimated model. Amongst other findings, the study revealed that a 1%increase in contraceptive prevalence rate will lead to approximately 3.53% decrease in population growth in Pakistan..

3. Hypothesis

The null hypothesis of the research are as follows:

Ho: There is negative relation between age of mother at marriage time and fertility rate.
Ho: There is negative relation between infant or child mortality & fertility rate.
Ho: There is negative relation between mother and father's education & fertility rate.
Ho: There is negative relation between unemployment of mother/father with fertility.
Ho: There is negative relation between contraceptive use & fertility rate.

Accurate investigation of above mentioned factors will be helpful for controlling high fertility and would help to improve health status of mothers & their off spring in target area as well as similar setting areas. Highlighting, factors causing high fertility in "Bhakkar Gabool Goth" an urban poor area of Karachi will detect relevant effective policies for intervention by the policy makers in said areas and in similar set up.

4. Methodology:

Study Area

The data was collected from urban poor area of Karachi city called "Bhakkar Gabool Goth" in district East, Karachi, Province Sindh. The total population according to local councilor is about 10000-15000 people but registered voters are only 3500 according to union council report (2015). Due to time & cost limitations the questionnaire was filled up from 100 ever married house hold women through simple sampling method. The area consists of approximately 40 acres and it is one of the oldest area of urban Karachi established in 1890 even appeared on British map before partition of Sub-Continent. It consists of densely and low income population and all ethnic groups are present i.e. Punjabi, Sindhi, Balochi, Pathan and Siarki.This area contained some well constructed plus informal housing structure. Employment of the people is mostly in unskilled manual occupation like daily labours, cutting onions for industries who sell it in packets on commercial basis, hand embroidery and cottage industries. The roads are improper and poor sewerage system prevails. Lastly sewerage system was upgraded in 1996 and there is also no water available in area. Poor people buy water from Donkey cart while medium status and rich people buy tankers from water board.. There is only one government primary school in the center of "Bhakkar Gabool Goth" there are also some private schools and has only one family planning clinic. Government hospitals are located in the far off places so people require private and public transport to reach there. There is no government clinic/dispensary or hospital and there is only one private clinic in the whole area. Women from well off families can afford private medication but poor women go to government hospitals located outside area."If contraception using cost is high women will resist despite a desire to avoid pregnancy" discovered by Easterline (1975)[xxvii] and Hermaline (1983)[xxviii] .This area also comprises of large number of immigrants from Punjab, Khyber Pukhtoonkhawa and Balochistan. .Local resident's women are mostly housewives but immigrant females tend to work inside or outside house on paid jobs due to economic necessity[2].

5. Questionnaire:

The information was collected through questionnaire and focus group discussion. Questionnaire consists of 3 parts first part deals with information of socio economic determinants like respondent's and their husband's income/education level/place of childhood residence, women with socio-demographic & economic information & husband's occupation/women's autonomy, further presence of electrical instrument was measured to find economic position of the house hold. Second part deals with marriage

[2] *Union Office Gulzar Hijry, Abdul Hassan Isphani Road and Mustafa Gabool, city government employee and resident of area for last 30 years.*

& health information like age at first marriage / first birth, lactation while third part deals with family planning information .Specific questions were asked on demographic, socio-economic status of house hold, including economic status, schooling, number of sons and daughters, employment status, women's autonomy, contraception use, health concern .

Data was collected in continuous visit to "Bhakkar Gabool Goth" based on simple random sample of 110 ever married women because it was a solo field work and majority of them were illiterate so in person 110 ever married women were interviewed and used to translate question from English to Urdu.

The study initially consisted of simple random sample of 110 ever- married women from 18-49 years age while out of 110 women, 3 women were excluded due to mental illness, can't hear or speak and 7 questionnaires were dropped due to incomplete or ambiguous information. So the final outcome was 100 questionnaire. The data was collected / analyzed / interpreted to have feasible results.

To check the quality of data, 10 percent of sample size of household was selected for pre testing but did not include in actual study population before actual data was collected.

Shortcomings: This study is conducted in poor urban area of Karachi confined to specific community so results can be generalizable to similar seating. Due to cost and time constraints sample was not that much large, there can be biasness in the result or biased estimation of result some of the respondents were not present at the time of my visit so it may also lead to recall bias.

6. Results

Results of the research are given in table 1. A total number of 100 ever-married women were included in the study. Majority of women were married before age 18, illiterate and gave birth to first kid before age 18. Malthus (1798) considered age of women at marriage and frequency of coition during marriage as primitive determinant of fertility,. Mostly women were married within baradaries (same family) and arranged marriage with one or two exceptional cases of love marriage or court marriage, and their spouse were seasonal labours and have no permanent source of income but it did not affect their fertility decision. Usually relationship between work and fertility is not a simple inverse but rather it is ambiguous one, it is generally accepted that relation between work and fertility is not unidirectional Singh and Casterline (1985)[xxix.] Women's were given limited autonomy, usually physically abused by husbands and all of them had TV although necessary electrical appliances like fridge, washing machine were not present but despite exposure to media they are not effected by family planning commercials. Majority spousal gap is at least 5-10 years, their spouse are little educated as compare to them but still illiterate because majority of the husband's education was only primary

or middle. Educated women are more likely to postpone marriage and better communicate about family planning with husbands" discovered by Saleem.A, & G.R Pasha, (2008)[xxx].

Out of 100 random sample 58 were employed outside home mostly as maid servants or in unskilled manual work and 42 were house wives but surprisingly working women have high fertility as compare to house wives due to particulars mind set of economic benefits. Mostly their husbands prefer male but mothers prefer both because male kid is earning asset while female kid will help mothers in domestic work as well as accompany mother in outside work (House maids) and earn more money so female kids play double role i.e. one at house other outside house. "Female's education & urbanization had significant but role of female labour participation seemed to be insignificant in case of Pakistan "by chani et,al (2012)[xxxi].

If look at determinants of high fertility there is no relation of family size with childhood residence, ethnicity, period of lactation, knowledge or use of contraception and work status of husband's respondent.

Some variables like age at first wedding, husband age at first wedding, spousal age gap, education status of women/husband, their desire for male kids and not allowing wives to use contraceptive is the main cause of high fertility, women who give birth to child at an early age i.e before 18 years have more chances of high fertility as to those mothers who bear children after the age of 18. Because their reproductive span is longer as compare to those who get married late or give birth late. If reproductive span is more so it is expected to end up having large number of children. Ayad et al. (2006)[xxxii] found that Morocco's fertility declines are mainly due to rise in women's normal age for marriage and contraceptive use which increases from 19% to 63% between 1980-2004.

Husband & respondent desire to have more kids show strong association with child ever born. Also infant/child mortality is supposed to have positive relation with high fertility. Women & their husband's educational status show positive relation with fertility. Majority of women and their husbands were illiterate so their fertility was high. Most women got education till primary afterwards they got married.

In present research although majority of sample about 95percent have heard of contraception but they don't use it mainly due to husband opposition and fear of side effects. In Pakistan 94% of married women know modern method of contraception but only 17% use them" said by Sathar and Casterline,(1998)[xxxiii].

They take pregnancy normal, still work hard, take simple food and go to female non-technical doctors for check-ups and most of their deliveries are conducted at home by local female non –midwives (dies) and if there is serious case then they go to Government hospitals located out side study area because there is no

hospital/dispensary in the area. They usually breastfeed their kids for more than two years and use less powder milk.

In this study respondents of early age group 18-24 years, those who experienced child or infant mortality, have less or irregular income, illiterate, engage in unskilled manual work were more interested in having more kids to have helping hands as compare to house wives but no relation is found between husbands employment and fertility. Majority of sample had kids above 5 and they want to have more kids until and unless their child bearing naturally stops and those who have less kid's i.e less than 5 were either divorced or widowed or ill like (Diabatic / T.B or Hepatitis). Local resident's women are mostly housewives but immigrant males and females tend to work inside home in cottage industries or outside home as seasonal or maid servants in paid jobs due to economic necessity but their income is not consistent. Most of the immigrants in this area are from Southern Punjab where lot of poverty exists.

7. Discussion

Many factors are responsible for high fertility in study area majority of women have high fertility i.e more than 5 kids so among these factors, age of respondent at first marriage/ first birth, husbands and respondent desire for more kids & education status of respondent and her husband, infant/child mortality were some of the important factors.

The study was conducted with objectives to identify selected socio-economic and demographic factors which directly or indirectly affect fertility in urban poor area of Karachi.. The analysis were based on descriptive analysis through percentages and number distribution of respondents .The average number of kids were greater than 5 and out of 23 variables discussed in questionnaire , only 14 variables show significant relation with fertility level which were respondent current age, education status of respondent/ her husband, work status of respondent and her husband, types of work, age at first marriage/first birth, infant/child mortality, contraception, sex preferences and willingness of respondent/ her husband to have more kids.

Table 1: Selected Socio-Demographic & Economic Characteristics:

Total N = 100	Age of Respondent	Proportion
18-24 Years	20	0.2

25-34 Years	55	0.55
35-44 Years	25	0.25
	Child hood Residence	
Rural	35	0.35
Urban	65	0.65
	Ethnicity	
Punjab	25	0.25
Sindhi	10	0.1
Balochi	5	0.05
Pathan	25	0.25
Sariaki	35	035
	Education Level of respondent	
Illetrate	70	0.7
Primary	10	.1
Middle	10	0.1
Secondary	5	0.05
Above Secondary	5	0.05
	Respondents Occupation	
House Wife	42	0.42
Maid	58	0.58
Self-employed	0	0
Daily labor	0	0
Merchant	0	0
	Husband's occupation	
No work	5	0.05
Self Employed	0	0
Home Servant	30	0.30
Seasonal worker	55	0.55
Expired	10	0.10
	Marriage health information	
	Age at first marriage?	
<18	85	0.85
18+	15	0.15
	Age at first Birth?	

<18	70	0.70
18+	30	0.30
Total No of kids of respondents?		
<5	35	0.35
>5	65	0.65
Willing sex of kids?		
Male	65	0.65
Female	10	0.10
Neutral	25	0.25
Infant child mortality?		
No	70	0.70
Yes	30	0.3
Do you or your husband want more kids?		
Yes	50	0.50
No	35	0.35
Neural	15	0.15
Duration of breast feeding?		
< 2 Years	25	0.25
> 2 Years	75	0.75
Family Planning		
Use of contraceptive?		
Yes	25	0.25
No	75	0.75
Husband's approval of family method?		
No	65	0.65
Yes	35	0.35
Heard of contraception?		
Yes	95	0.95
No	5	0.05

Table 2: Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation

Husband's monthly income?	100	5000	15000	9145.00	2612.417
What is your monthly income?	100	1000	15000	5300.00	3302.891
What was your expenditure last month?	100	500	20000	7945.00	5117.752
What was your age at marriage?	100	13	20	16.38	2.335
What was your husband age at marriage?	100	13	28	21.94	3.797
How long have you been married now?	100	3	32	14.81	8.692
What was your age at first birth?	100	14	22	18.03	2.528
How many male children did you deliver?	100	0	6	2.02	1.864
How many female children did you deliver?	100	0	5	1.60	1.295
Total number of Kids	100	1	9	3.62	2.453
Did you breastfeed your kids	100	.60	2.50	1.7740	.58683
Did you use powder milk?	100	.00	.00	.0000	.00000
Did you use loose milk?	100	.00	.00	.0000	.00000
Average amount paid for delivery/who paid the amount?	100	600	20000	5010.00	4446.688
Valid N (list wise)	100				

It is clear from descriptive statistics that mean age of mother is 18.03 and mean number of total kids were 3.62 so it shows that when mother age is less number of kids are more therefore it supports our hypothesis.

Hypothesis No 1.

There exist negative relation between age of mother at marriage and fertility. Table 1 shows that we accept null hypothesis based on results because majority of sample 85 percent were married before 18 and 70 percent of them gave birth to kids before the age of 18 so they have more span for reproduction & end up with more kids as their median age for marriage were before 18 which is early as compare to median age set by Government of Pakistan i.e. 21 years. Early age at first wedding and first birth is contributing factor because they are earlier exposed to sexual intercourse which result in too many teenage as well as overall pregnancies. According to Alemayehu et.al. (2010)[xxxiv]"Culture of early marriage has greater likelihood of having a lot of children eventually". Government should impose minimum age law for marriage of both males and females to discourage early marriages. "Children giving birth to children in Pakistan". (Article written in Dawn News on 8 December, 2014 by Murtaza Haider, Director of Regional Economics.com)

Table 3: Chi-Square Tests for negative relation between age of mother at marriage and fertility rate

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	175.510[a]	35	.000

Likelihood Ratio	169.839	35	.000
Linear-by-Linear Association	7.077	1	.008
No of Valid Cases	100		

It can be seen from Chi-square test that probability is highly significant .000 so Ho null hypothesis is accepted that there is negative relation between age of mother at marriage and fertility rate.

Hypothesis No 2.

There is negative relation between infant/ child mortality & fertility. We reject null hypothesis and accept alternative hypothesis supported by table 1 because we observe positive relation between infant/ child mortality and family size. Those 70 percent of women who experience either child/infant mortality expand their size of family as compare to those who never faced infant/ child mortality because they want to avoid risk and replace lost children. Those sample size that face child/infant mortality have more kids between 7-8 more than average number of 5. According to Dust, (2005)[xxxv] "High rate of infant / child mortality motivate couples to have more kids". Reducing infant/child mortality can reduce fertility so it requires government to adopt burly measures such as provision of safe water, increase in maternal education, and provide more vaccination in urban poor areas.

Table 4: Chi-Square Tests for negative relation between infant/child mortality and fertility rate.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.608[a]	7	.059
Likelihood Ratio	18.139	7	.011
Linear-by-Linear Association	1.650	1	.199
No of Valid Cases	100		

It can see from Chi-square test that our probability is significant .05 so Ho null hypothesis is accepted that there is negative relation between infant/child mortality and fertility rate.

Hypothesis No 3.

There exist negative relation between mother's / father's education & fertility. Therefore null hypothesis based on results of table 1 are accepted .Majority of sample 70 percent of respondents and their husbands have low education or illiterate so their fertility were high. Education status of both the respondents displayed negative relationship with fertility. According to Dejene (2000)[xxxvi] and Vilaysook, (2009)[xxxvii] "those educated women have low fertility compared with those uneducated women".

Girls don't get proper education or get less education so Government should promote female education at least in urban poor areas to delay their marriage because education not even reduce uncontrolled fertility but with education women better communicate with their husbands and use family planning more betterly".

Table 5: Chi-Square Tests between fertility rate and respondent education

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	78.313[a]	21	.000
Likelihood Ratio	57.531	21	.000
Linear-by-Linear Association	17.661	1	.000
No of Valid Cases	100		

Table 6: Chi-Square Tests between fertility rate and father education

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	106.465[a]	21	.000
Likelihood Ratio	106.732	21	.000
Linear-by-Linear Association	11.241	1	.001
No of Valid Cases	100		

It can see from Chi-square test for both variables that probability of both variables are highly significant .000 so Ho null hypothesis is accepted that there is negative relation between mother and father's education and fertility rate.

Hypothesis No 4.

There is negative relation between unemployment of mother/father with fertility. we reject null hypothesis and accept alternative hypothesis based on results presented in table 1 .In sample there is no relation found between female work and fertility .Similarly majority of the sample husbands were seasonal employed which were 55 percent i.e. on daily wages and remained mostly unemployed but it does not affect their fertility decision so no relation is found between unemployment of mother and father with fertility level or family size. Women from poorest house hold go out for job due to economic necessity. Fertility is negatively related for women in high status job while for low status job fertility and female labour force participation was positively related found by Sather et.al (1989)[xxxviii]. Shehzad Roy[xxxix] one of the famous singer and human activist of Pakistan has adopted two public schools in Karachi ,once in an interview to magazine he revealed that every year we have demand for admission of 8-10 of brothers & sisters from single house specially from lower income group because for poor people children are investment assets rather than consumption good. The expected return of investment is given by child labour.

Table 7: Chi-Square Tests for relation between fertility rate and unemployment of respondent

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	131.571[a]	14	.000
Likelihood Ratio	84.298	14	.000
Linear-by-Linear Association	.700	1	.403
No of Valid Cases	100		

Table 8: Chi-Square Tests for relation between fertility rate and unemployment of husband

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	107.298[a]	14	.000
Likelihood Ratio	58.411	14	.000
Linear-by-Linear Association	31.920	1	.000
No of Valid Cases	94		

It can see from Chi-square test for both variables that probability of both variables are highly significant .000 so Ho null hypothesis is accepted that there is negative relation between mother and father's unemployment and fertility rate

Hypothesis No 5

There is negative relation between contraceptive use & family size. Our results of table 1 supported null hypothesis and reject alternative hypothesis. Majority of women 75 percent don't use contraceptive so their fertility is still high because in Pakistan most decisions are taken by husband so without husband's approval women can't use contraception. The major cause of not using contraceptive was mainly husbands resistance . "Husband's disapproval has led to a reduction in contraceptive use by 66%' .Bongaarts and Bruce (1995)[xl]."In Pakistan contraception is strongly influenced by socio economic culture" found by Casterline et,al.(2001)[xli] .Government should create more and more family planning clinics in the urban poor areas and should provide more information through lady health workers about contraception that they don't contain any side effects. There is only one family planning clinic in whole area so poor women even due to financial reasons can't afford private clinics this may be one of the cause of not using contraception besides husband resistance and fear of side effects.

Women of young age group ,experiencing infant/child mortality, less or unstable income ,uneducated and less users of contraception and those who work outside are likely to have more kids, revealed by Von et.al in (2016)[xlii.] Number of kids a woman bear is not due to one factor but combination of different factors."

Table 9: Chi-Square Tests between contraceptive use and fertility rate.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	62.121[a]	7	.000
Likelihood Ratio	50.470	7	.000
Linear-by-Linear Association	34.125	1	.000
No of Valid Cases	100		

It can see from Chi-square test that probability of variable are highly significant .000 so Ho null hypothesis is accepted that there is negative relation between contraceptive use and fertility rate

8. Conclusion

In "Bhakkar Gabool Goth" the number of children ever born was extremely high more than 5 kids for majority of the sample and many factors contributed to this high fertility among these factors age at marriage, infant/child mortality, husband desire for more children, high unmet need for contraceptive use and high sex preferences were the main factors. So measures should be taken to reduce infant/child mortality, more and more family health clinics should be established particularly in slum areas, female education should be increased to encourage delayed marriages and contraception use should also be enhanced through media or health visitors.

Reference:

Adhikari, R. (2010). Demographic, socio-economic, and cultural factorsaffecting fertility differentials in Nepal. BMC pregnancy and childbirth, 10(1), 19.

Alemayehu, T., Haider, J., & Habte, D. (2010). Determinants of adolescent fertility in Ethiopia. Ethiopian Journal of Health Development, 24(1).

Al-Sharif, A. I., & Al-Khaldi, Y. M. (2003). Resource availability for care of hypertensives at primary health settings in Southwestern Saudi Arabia. Saudi medical journal, 24(5), 466-471.

Ayad, M., & Roudi, F. (2006). Fertility decline and reproductive health in Morocco: new DHS figures.

Bongaarts, J. (1978). A framework for analyzing the proximate determinants of fertility. Population and development review, 105-132.

Bongaarts, J., & Bruce, J. (1995). The causes of unmet need for contraception and the social content of services. Studies in family planning, 57-75.

Caldwell, J. C., Orubuloye, I. O., & Caldwell, P. (1992). Fertility decline in Africa: A new type of transition?. Population and development review, 211-242.

Caster line J. 1984. Fertility differentials in Pakistan in I alam and B. Dine son A review of finding from Pakistan fertility survey voorburg, Netherlands internal statistical centre.

Casterline, J. B., Sathar, Z. A., & Haque, M. U. (2001). Obstacles to contraceptive use in Pakistan: a study in Punjab, Policy Research Division, The Population Council, Working Paper, 145, Islamabad. In Institute for Development Studies, University of Sussex.

Chani, M. I., Shahid, M., & Ul, H. M. (2012). Some socio-economic determinants of fertility in Pakistan: an empirical analysis. Актуальні проблеми економіки, (5), 477-484.

Cohen, B. (1998). The emerging fertility transition in sub-Saharan Africa. World Development, 26(8), 1431-1461.

Davis, K., & Blake, J. (1956). Social structure and fertility: An analytic framework. Economic development and cultural change, 4(3), 211-235.

Dejene, N. (2000). Impacts of some socio demographics on fertility in urban Addis Ababa: OLS and Tobit analysis. JESA, 1, 49-77.

Dust, K. (2005). The effects of education, income, and child mortality on fertility in South Africa (Doctoral dissertation, Department of Economics-Simon Fraser University).

Easterlin, R. A. (1975). An economic framework for fertility analysis. Studies in family planning, 6(3), 54-63.

Hermalin, A.UI. 1983 Fertility regulation and H's costs & a critical essay "In the determinants of fertility in developing countries" Eds. R. Bulatao and R. Lee New York: Academic press Vol 2.Interview published in Midweek Magazine Jung on 24-30 August 2010 by Shehzad Roy

Kamal, A., & Pervaiz, M. K. (2011). Factors Affecting the Family Size in Pakistan: Clog-log Regression Model Analysis. Journal of Statistics, 18(1).

Kamboh, K., Saleem, A., Muslim, I., & Tahir, S. U. (2014). Education is the Best Contraceptive: A Case Study of Faisalabad. Journal of Educational and Social Research, 4(3), 475.

Khraif, R. M. (2001, August). Fertility in Saudi Arabia: levels and determinants. In XXIV General Population Conference, Salvador, Brazil (pp. 18-24).

Lai, S. L., & Tey, N. P. (2014). Socio-economic and proximate determinants of fertility in the Philippines. World Appl Sci J, 31(10), 1828-1836.

Masood, R. (1998). The importance of having children in Pakistani society. Pakistan Journal of Psychological Research, 18(1-2).

Matthew, O. & Ikpotokin, O. (2012).Modeling the determinants of fertility among the women of child bearing age in Nigeria: Analysis using Generalized Linear

Modeling Approach International Journal of Humanities and Social Sciences, 2 (18), 167-176.

Nasir, J. A., Hinde, A., & Padmadas, S. (2015). What can proximate determinants of fertility tells us about the fertility transition of Pakistan? Pakistan Journal of Commerce and Social Sciences (PJCSS), 9(3), 799-817.

National Institute of Population Studies (Pakistan), and MEASURE DHS (Program). Pakistan Demographic and Health Survey, 2012-13 and (Various Issues)

Nyoni, T. (2018). Determinants of population growth: empirical evidence from Pakistan (1960-2017).

Pakistan Population Assessment Report (2003).

Park, S. T. (1978). A MULTI-VARIATE ANALYSIS OF CHILDREN-EVERBORN FOR CURRENTLY-MARRIED WOMEN. Bulletin of the Population and Development Studies Center, 25-42.

Saleem, A., & Pasha, G. R. (2008). Women's reproductive autonomy and barriers to contraceptive use in Pakistan. The European Journal of Contraception & Reproductive Health Care, 13(1), 83-89.

Sathar, Z. A., & Casterline, J. B. (1998). The onset of fertility transition in Pakistan. Population and Development Review, 773-796.

Sathar, Z. A., & Kazi, S. (1989). Female employment and fertility: further investigation of an ambivalent association. The Pakistan Development Review, 175-193.

Schultz, T. P. (1969). Fertility and Income.

Shakya, K., & Gubhaju, B. (2016). Factors contributing to fertility decline in Nepal. Journal of Population and Social Studies, 24(1), 13-29.

Sharif, M., SAFDAR, S., MUBEEN, C., HUSSAIN, S., & RASHEED, S. (2007). Factors affecting family size and sex preference: A study of urban tehsil Fasialabad (Pakistan). Education, 150(34.00), 20-67.

Singh, K., Robinson, A., & Williams-Green, J. (1995). Differences in perceptions of African American women and men faculty and administrators. Journal of Negro Education, 401-408.

Singh, N. (1985). Population and Poverty. Mittal Publications.

Thomas Robert, Malthus "Essay on The Principle Of Population" (1978-1803).

Ushie, M.A. Moghob, A.A Olumodeji, E.O & Attah, F.(2011).Socio-cultural and economic determinants of fertility differentials in rural and urban cross- river state. Journal of Geography and Regional Planning 4 (7), 383-391.

Von Grebmer, K., Bernstein, J., Nabarro, D., Prasai, N., Amin, S., Yohannes, Y. & Thompson, J. (2016). 2016 Global hunger index: Getting to zero hunger. Intl Food Policy Res Inst.

Vilaysook, S. (2009). Relations Ship Between child morality and fertility among ever married women in Leo. (Master of ats thesis, Mahidol University)

Zafar, M. I., Asif, F., & Nawaz Anwer, H. (2002). Perceptions of the Male Children: Satisfaction and Expectations. Journal of Applied Sciences, 2, 1044-1049.

[i] Pakistan Population Assessment Report (2003).

[ii] National Institute of Population Studies (Pakistan), and MEASURE DHS (Program). Pakistan Demographic and Health Survey, 2012-13.

[iii] Thomas Robert, Malthus "Essay on the Principle of Population" (1978-1803).

[iv] Davis, K., & Blake, J. (1956). Social structure and fertility: An analytic framework. Economic development and cultural change, 4(3), 211-235.

[v] Schultz, T. P. (1969). Fertility and Income.

[vi] Park, S. T. (1978). A MULTI-VARIATE ANALYSIS OF CHILDREN-EVERBORN FOR CURRENTLY-MARRIED WOMEN. Bulletin of the Population and Development Studies Center, 25-42.

[vii] Bongaarts, J. (1978). A framework for analyzing the proximate determinants of fertility. Population and development review, 105-132.

[viii] Caster line J. 1984. Fertility differentials in Pakistan in I alam and B. Dine son A review of finding from Pakistan fertility survey voorburg, Netherlands internal statistical centre.

[ix] Sathar, Z. A., & Kazi, S. (1989). Female employment and fertility: further investigation of an ambivalent association. The Pakistan Development Review, 175-193.

[x] Caldwell, J. C., Orubuloye, I. O., & Caldwell, P. (1992). Fertility decline in Africa: A new type of transition?. Population and development review, 211-242.

[xi] Cohen, B. (1998). The emerging fertility transition in sub-Saharan Africa. World Development, 26(8), 1431-1461.

[xii] Masood, R. (1998). The importance of having children in Pakistani society. Pakistan Journal of Psychological Research, 18(1-2).

[xiii] Khraif, R. M. (2001, August). Fertility in Saudi Arabia: levels and determinants. In XXIV General Population Conference, Salvador, Brazil (pp. 18-24).

[xiv] Zafar, M. I., Asif, F., & Nawaz Anwer, H. (2002). Perceptions of the Male Children: Satisfaction and Expectations. Journal of Applied Sciences, 2, 1044-1049.

[xv] Al-Sharif, A. I., & Al-Khaldi, Y. M. (2003). Resource availability for care of hypertensives at primary health settings in Southwestern Saudi Arabia. Saudi medical journal, 24(5), 466-471.

[xvi] Sharif, M., SAFDAR, S., MUBEEN, C., HUSSAIN, S., & RASHEED, S. (2007). Factors affecting family size and sex preference: A study of urban tehsil Fasialabad (Pakistan). Education, 150(34.00), 20-67.

[xvii] Adhikari, R. (2010). Demographic, socio-economic, and cultural factorsaffecting fertility differentials in Nepal. BMC pregnancy and childbirth, 10(1), 19.

[xviii] Ushie, M.A. Moghob, A.A Olumodeji, E.O & Attah, F.(2011).Socio-cultural and economic determinants of fertility differentials in rural and urban cross- river state. Journal of Geography and Regional Planning 4 (7), 383-391.

[xix] Kamal, A., & Pervaiz, M. K. (2011). Factors Affecting the Family Size in Pakistan: Clog-log Regression Model Analysis. Journal of Statistics, 18(1).

[xx] Matthew, O.& Ikpotokin, O. (2012).Modeling the determinants of fertility among the women of child bearing age in Nigeria: Analysis using Generalized Linear Modeling Approach International Journal of Humanities And Social Sciences, 2 (18),167-176.

[xxi] Lai, S. L., & Tey, N. P. (2014). Socio-economic and proximate determinants of fertility in the Philippines. World Appl Sci J, 31(10), 1828-1836.

[xxii] Kamboh, K., Saleem, A., Muslim, I., & Tahir, S. U. (2014). Education is the Best Contraceptive: A Case Study of Faisalabad. Journal of Educational and Social Research, 4(3), 475.

[xxiii] Nasir, J. A., Hinde, A., & Padmadas, S. (2015). What can proximate determinants of fertility tells us about the fertility transition of Pakistan?. Pakistan Journal of Commerce and Social Sciences (PJCSS), 9(3), 799-817.

[xxiv] Shakya, K., & Gubhaju, B. (2016). Factors contributing to fertility decline in Nepal. Journal of Population and Social Studies, 24(1), 13-29.

[xxv] Singh, K., Robinson, A., & Williams-Green, J. (1995). Differences in perceptions of African American women and men faculty and administrators. Journal of Negro Education, 401-408.

[xxvi] Nyoni, T. (2018). Determinants of population growth: empirical evidence from Pakistan (1960-2017).

[xxvii] Easterlin, R. A. (1975). An economic framework for fertility analysis. Studies in family planning, 6(3), 54-63.

[xxviii] Hermalin, A.UI. 1983 Fertility regulation and H's costs & a critical essay "In the determinants of fertility in developing countries" Eds. R. Bulatao and R. Lee New York: Academic press Vol 2.

[xxix] Singh, N. (1985). Population and Poverty. Mittal Publications.

[xxx] Saleem, A., & Pasha, G. R. (2008). Women's reproductive autonomy and barriers to contraceptive use in Pakistan. The European Journal of Contraception & Reproductive Health Care, 13(1), 83-89.

[xxxi] Chani, M. I., Shahid, M., & Ul, H. M. (2012). Some socio-economic determinants of fertility in Pakistan: an empirical analysis. Актуальні проблеми економіки, (5), 477-484.

[xxxii] Ayad, M., & Roudi, F. (2006). Fertility decline and reproductive health in Morocco: new DHS figures.

[xxxiii] Sathar, Z. A., & Casterline, J. B. (1998). The onset of fertility transition in Pakistan. Population and Development Review, 773-796.

[***xxxiv***] Alemayehu, T., Haider, J., & Habte, D. (2010). Determinants of adolescent fertility in Ethiopia. Ethiopian Journal of Health Development, 24(1).

[xxxv] Dust, K. (2005). The effects of education, income, and child mortality on fertility in South Africa (Doctoral dissertation, Department of Economics-Simon Fraser University).

[xxxvi] Dejene, N. (2000). Impacts of some socio demographics on fertility in urban Addis Ababa: OLS and Tobit analysis. JESA, 1, 49-77.----------

[xxxvii] Vilaysook, S. (2009). Relations Ship Between child morality and fertility among ever married women in Leo. (Master of ats thesis, Mahidol University)

[xxxviii] Sathar, Z. A., & Kazi, S. (1989). Female employment and fertility: further investigation of an ambivalent association. The Pakistan Development Review, 175-193.

[xxxix] Interview published in Midweek Magazine Jung on 24-30 August 2010 by Shehzad Roy

[xl] Bongaarts, J., & Bruce, J. (1995). The causes of unmet need for contraception and the social content of services. Studies in family planning, 57-75.

[xli] Casterline, J. B., Sathar, Z. A., & Haque, M. U. (2001). Obstacles to contraceptive use in Pakistan: a study in Punjab, Policy Research Division, The Population Council, Working Paper, 145, Islamabad. In Institute for Development Studies, University of Sussex.

[xlii] Von Grebmer, K., Bernstein, J., Nabarro, D., Prasai, N., Amin, S., Yohannes, Y., & Thompson, J. (2016). 2016 Global hunger index: Getting to zero hunger. Intl Food Policy Res Inst.

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Impact of Working Capital Management on Financial Performance of Firms: Evidence from Pakistani Firms

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Abstract

This study aims to investigate the impact of working capital management on the financial performance of firms. We have taken non-financial sector which is listed in Pakistan stock exchange (PSX) over the period of 2010 to 2015. We have sampled 50 firms listed is PSX. The secondary data is being collected from the publication of State bank of Pakistan (SBP) "Financial Statement analyses of Non-financial sector listed in Pakistan stock exchange 2010-2015". Furthermore, we have used purposive sampling method to choose the selective firms in manufacturing industry of Pakistan. Moreover, Pearson correlation and multiple regression are used as data analyses techniques. The study variables consist working capital management as independent variable and financial performance as dependent variable. We have used proxies to compute independent variable like Average payment period (APP), inventory turnover (ITO), cash conversion cycle (CCC) and average collection period (ACP). Moreover, financial performance (dependent variable) measured as earnings per share (EPS), return on equity (ROE) and return on assets (ROA). It is observed in the results that there is a significant and negative impact of APP and ITO on ROA, but two independent variables CCC and ACP have significant and positive impact on ROA. Moreover, it is found that CCC, APP and ITO have significant and negative impact on ROE and EPS respectively. Last, it is observed that ACP has a significant and positive impact on ROE and EPS. The results of multiple regression investigated that the financial performance of Pakistani manufacturing firms is consistent with WCM. This study supports in managing the working capital requirements to boost firm performance in general. Moreover, specifically in the context of Pakistani manufacturing firms the study implications are significant in expansion and betterment of financial performance of firms.

Keywords: *Financial Performance, Working Capital Management, Proxies*

1. Introduction

The working capital is the difference of current assets and current liabilities. It is a controversial topic among researchers round the globe. The working capital management is regarded as short-term decision making based on current assets and current liabilities. This decision is tricky for financial managers to make an optimal

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working capital. This decision is based on liquidity and return of a firm. Moreover, to determine the value of firm WC plays a vital role among firms. The desire of every firm regarding working capital is to overcome their short-term liabilities from their current assets. If a firm consist more current assets than its current liabilities, it should be said as good Employed Capital. Horne & Wachowicz, (2004) stated that a best decision regarding working may uplift the value of firm. Moreover, they stated regarding manufacturing firms, that these firms mostly depend on the current assets, therefore, they should be more curious about WCM. In all the countries the output of manufacturing firms leads to many good results in the economy like better GDP rate, access for employment opportunities and more investment leads to competition which reduces the inflation rate in a country. Hence, the manufacturing industries are giving the same benefits in Pakistan. According to Pakistan Economic survey of 2014-2015. The economy is being benefited in GDP by 13.3% and in Employment by13.8% respectively, only from the manufacturing firms. Pakistan is the leading country in Agriculture. However, after agricultural sector the manufacturing group became second largest economic sector of Pakistan. In manufacturing sectors, we have several sub heads of manufacturing concerns labelled into various economic groups like Pharmaceutical and Bio tech, Cement, Sugar, Beverages, Automobile, Textile, oil and gas, Technology and Hardware and Industrial metal and Mining. Firm's cash flow depends on the best decision regarding Employed Capital (Haq et al., 2011). According to Gitman, (1994) working capital must be in stable condition. Too much of working capital leads to issues in firms like agency cost, and too few working capital troubles a firm to borrow more from external sources or sometime firms go bankrupt. Therefore, firms should make a balance in working capital and indeed it is difficult for financial managers. Rehman & Nasr, (2007) depicts that the Profit is the main concern of every business. Therefore, financial managers do hard to achieve a certain amount of profit. Simultaneously, managers think about the liquidity factor which is also important to run the operations of firm. However, liquidity (borrowings) leads to a certain level of cost. Therefore, firms need to set a balance among cost of liquidity, principal and profit. If managers fail to do so, it will arise certain complicated issues for firm like insolvency and bankruptcy. According to Afza & Nazir, (2009) WC is simply the optimal setting of current assets and current liabilities. WC of firm can be achieved by subtraction of firm's current assets/short-term assets and short-term/current liabilities. The most important reason to find an optimal working capital is to understand the return structure of current assets which a firm employed. If the firm does not employ their funds appropriately, it would confront many issues in the operational cycle. In the financial management we have observed three decisions which a manager should take to maximize the value of firm. First, managers should take decision about financing in which they observe that whether to raise funds from debt or from equity. Second, managers take investment decisions both long and short-run, for the sake of long-run investment financial managers evaluate the business projects through capital budgeting and on the other hand for the management of short run projects they analyse working capital management. Third, managers take decision about dividend that whether to pay

dividend or not it depends on firm's free cash flows (FCF). It simply means that Employed Capital is also important in maximizing the firm's value. An optimal Employed Capital may raise the overall value of firm (Sarniloglu and Demirgunes, 2008). Financial managers use a circular flow of operational activities, they buy on credit and set a time that when to clear the accounts payable and simultaneously, to attract the customers they also sale the goods on credit and generate the account receivable and for them they set a slightly early collection time period to satisfy their accounts payable on due time. It is hard for them to make such an on-time inventory turnover and collection which lead them in the fulfilment of their short-term borrowings (Rehman & Nasr, 2007). However, sometimes firms face the bad debts issues and sudden low demand in goods by the substitution effect. The optimal WCM leads to the proper management of current assets to generate enough funds to satisfy the short-term obligations in a significant manner (Lazaridis & Tryfondis, 2006). WC is a growing issue in among firms, now question arises that why WC is increasing issue and has great importance among financial managers, the answer is firms want to manage their day to day activities by managing liquidity and cost of liquidity. Therefore, Managers try to avail themselves of different opportunities to choose a best stream of cash flows which reduces the risk on bankruptcy or insolvency and best utilization of the short-term funds (Rahman and Nasr, 2007).

Contrary, having a low value of working capital can lead to shortage in funds to satisfy the current needs to support the operation, more liquid and less liquid working capital is not considerable, balanced situation is preferable to increase the financial performance of firm (Afza & Nazir, 2009). WCM considered as life blood of firm. Working capital is the requirement of every firm whether the firm is small, medium or large, whether for profit firms or not for profit firms, simply, if an institution needs to be alive so as much they maintain better working capital more they could survive (Mukhopadhyay, 2004). Financial performance simply refers to output of money after performing all operational activities. This study measured financial performance by using proxies like return on assets (ROA), Earnings per share (EPS) and Return on equity (ROE). Furthermore, financial statements are drawn by a firm to analyse the financial performance that what a firm has done in the financial year. Therefore, it helps to understand the strength and weakness of firm's operations. Moreover, firms prepare statement of cash flow as well to manage the inflow and outflow of cash. Cash being a most liquid asset in the balance sheet, managers deal in cash management curiously to fulfil the working capital requirement and it also helps the firm to analyse and forecast the firm's financial performance. However, most of the speculators use ratio analyses technique to analyse the financial performance of firm. This paper aims to investigate that whether the impact of working capital on financial performance do exist in Pakistani manufacturing firms or there is nothing in it.

Employed Capital possess extremely great importance from the last decade. It is being observed that due to emergence of economies and the business world, the difficulty for firms in working capital management is keep on increasing day by day (Gill et al, 2010).

In the same manner, Pakistan being a 23rd largest economy in the world face the same issues regarding WCM. The firms which are listed in Pakistan stock exchange have considerably low financial performance from last three years (Economic survey of Pakistan 2014-2015). However, the impact of WCM on financial performance of Pakistani firms are not been observed yet, that how much the firms are being affected from non-existence of WCM. We have taken the manufacturing firms which are listed in Pakistan stock exchange (PSX). In manufacturing sector, we have several sub heads of manufacturing concerns labelled into various economic groups like Pharmaceutical and Bio tech, Cement, Sugar, Beverages, Automobile, Textile, exploration sector (like Oil & Gas) , Technology and Hardware and Metal and Mining industries . The above-mentioned economic groups are the most important economic groups; therefore, this study aims to investigate the impact of working capital on financial performance of these major economic groups.

2. Literature Review

This section refers to the empirical evidences from the world on the impact of Employed Capital/ WCM on financial performance of firms. In the literature of finance working capital is defined as the combination of current assets and current liabilities (CA-CL). Some of the financial experts say net working capital (Preve and Allendo, 2010). The current portion of assets refer to cash, account receivables and inventory whereas the current liabilities include accounts payables and accruals. The task of financial managers is to maximize the value of firm, therefore, they set a best mix of CA and CL to achieve that goal (Sarniloglu and Demirgunes, 2008). Gill et al, (2010) depicts that firm work hard to set a balance of working capital for the better operational growth. Furthermore, Taleb et al, (2010) investigated that the better management of working capital makes strengthen a firm regarding its financial position. As per focus on the new goal of financial management which is maximizing the wealth of shareholder, it is only possible if firm increases the value, so more the value of firm better the stock price can be (Nazir & Afza, 2008). In the current competitive business environment, it is hard for firms to achieve a balance performance of working capital, firms try to make such policies through which they manage it in a significant manner, these problems may be raised due to deficiency in management policy structure (Ademola, 2014; Alipour, 2011, Binti et al, 2010 and Gitman, 1994). Appropriate management of working capital is important to a company's essential financial strength and the success in operational business. Therefore, many empirical studies have been investigated to analyse working capital, current research particularly focusing on the impact of WCM on the monetary performance of firms, it contributes the evidence from the Pakistani firms. Furthermore, the literature shows various studies which are being conducted in different parts of the world, this part explains in detail. If a firm decreases its cash conversion cycle, it would lead to better financial performance (Nobanee et al, (2011). It was investigated in Japan, by taking an analysis of 2123 firms which were related to non-financial sector. "Employed Capital involves some tricky decisions which may lead a firm prosper in

current assets and due clearance of current liabilities and expenses (Brealey et al. 2002)". Fathi and Tavakkoli, (2009) revealed that the elements of WCM helps a firm to manage supply chain. An efficient and effective working capital of firm may enhance the firm's monetary performance (Singh and Asress, 2011). Nwankwo and Osho, (2010), depict that healthy financial performance of firm strengthen time, efficiency, goodwill and wealth of shareholder, though it is only possible if a firm does manage WC on an optimal level. Firm's value depends on the availability of free cash flows at a discount rate of weight average after tax cost of capital, more FCF refers to apt and prompt fulfilment of cost of financing, though WCM in one of the important elements in raising firm's value (Dong et al, 2010; Mansuri et al, 2012). The relationship of current operating assets with current liabilities denote to a short-term financing decision, WCM takes analyses of firm's short run stream of cash flows (Inflow & Outflow), in nutshell WCM is helpful to take short run financing decision (odi and Solomon, 2010). Investment is nothing but a current commitment of money which gives a firm some future returns, though every investor/speculator analyse the future returns before to invest, in the same manner WCM is an investigation that at how much time firm collects inflow from their current assets to pay the short-term obligations on due time and to manage certain amount in current assets to regenerate inflows (Pouraghajan et al, 2012; Naveed et al, 2014; Napompech, 2012; Olsson et al, 2007). Moreover, Rehman & Nasr, (2007) empirically investigated that WCM and profitability are negatively related with firm's liquidity ratio. Furthermore, Shaw, (2006) stated that efficient WC may avail more short-term investment opportunity, it simply means that the EWCM (efficient working capital management) leads to greater portion of current assets over short term liabilities which may turns the wheels of firm towards profitability. Though, more profitability pushes the firm to invest more in expansion of the existing operations and it also helps firm to entertain the firm from future expectations, like if firm consists excess profitability thus they can buy more at lower price and if they observed that the prices of the certain material (Raw material/Finished goods) will go up in future days consequently they can also buy more at cheaper rates. Deloof, (2003) added that firm's profitability is directly related to its sales. More sales lead to better profitability and vice versa, though effective WC may increase sales ratio and profitability as well. Gitman, (1994) depicts that efficient WC may enhance the value of firm, EWCM is possible firms make a greater portion of current assets over current liabilities. In 2014, an important study was conducted in Iran by Chashmsayadan et al, (2014). The study is based on the impact of Employed Capital on firm's monetary performance. The study consisted of those firms which were listed in TSE (Tehran stock exchange) in Iran following the time series data analyses over the period of 2007 to 2011. In the measurement of WCM they took Cash conversion cycle and its internal components. They investigated a significant and positive relationship between efficiency of WC and firm's profitability. They also depict that firms in strong financial position have less volatility in WCM compared to week firms. It simply suggests that appropriate management of WC raise the profitability ratio and may increase the financial position of firms. In support of Chashmsayadan et al, (2014) another

researcher added that Pharma industry has positive and significant impact of WCM on financial performance (Gulia, 2014). They sampled 60 firms in pharma industry over the period of 5 years. Moreover, Correlation and regression analyses have been used to proof the hypotheses of that study. Another study is being conducted in Iran with the sample of 56 firms over the period of 2003-2007. The study found a significant impact of WC on firm performance. They have considered receivable collection period, payable deferral period and inventory turnover in measuring of WCM, while market to book ratio, return on equity and return on assets were taken to analyse financial performance. They investigated a positive and significant relationship between WCM and financial performance of Iranian firms. They reported that more profitability gives ways to firms to expand firm's projects. Moreover, increased profitability settles the issue of receivable collection period, if firm is strong in their profitability, thus they may reserve more in retained earnings and they can pay their deferral payments (accounts payable, accruals) on due time. The firm's WCM has a strong relationshipwith the profitability (Mobeen et al, 2011). They investigated this relationship among 65 firms listed at Karachi stock exchange (KSE) over the period of 2005-2009. Taani, (2011) depicts a significant and positive relationship between monetary performance and WCM, she further stated that the components of WC are most important in the raising of firm's value. Sharma and Kumar, (2011) added that components like average collection period (ACP), Cash conversion cycle (CCC) have a significant and positive relationship in overall financial performance of firm. In support of Sharma and kumar, (2011) another researcher Akinlo, (2011) investigated the same relationship with the sample of 95 Africans firms, he also observed better financial performances of firms if they cure ACP and CCC. Lazaridis and Tryfonidis, (2006) investigated with OLS model to check the relationship between firm's Employed Capital and firm's profitability. They sampled 131 listed firms over the period of 2001-2004, the results show that there is a significant relationship between both variables, which shows that smooth Employed Capital may increase the profitability of firm. Eljelly, (2004) investigated 136 Saudi listed firms and the results shows the significant relationship between WCM and monetary performance. Indian cement industry has a positive relationship between firm's WCM and FP (Ghosh and Maji, 2003; Rajesh et al. 2011). They selected some working capital components as a proxy measure like Net income before interest and tac (NIBIT), average collection period (ACP). Tighter cash conversion cycle is highly associated with profitability of Pakistani firms (Quereshi, 2014). The researcher investigated Pakistani non-financial sector listed in PXE, the regression and correlation techniques were used to analyse the data, the results show that that there is negative relationship of WCM on the Monetary performance of firms. Moreover, he argued that the effective WCM leads to better profitability and vice versa. Another supportive research paper found in the name of Alavinasab, (2013). He supported the negative relationship of WCM on the profitability or Financial performance of Iranian firms. He investigated 147 firms which were listed is Tehran over the period of 2005-2009. For correlation and multiple regression analyses He used CCC as a measure of WC and for financial performance he took ROE and ROA.

Suitable average collection period from accounts receivables or debtors may increase the profitability of firm (Uremadu et, al. 2012). They investigated that if firm follows appropriate debtors aging schedule, thus they can increase the cash inflows which enhances firm's profitability and better WC position. Financial performance of firms depends on cash inflows, increase in cash inflows make a firm's ability to pay short term liability on time which raises the confidence level of investor and profitability also increases the confidence of stockholders because on the basis of better financial performance they expect some capital gains (Bagchi & Khamrui, 2012). Amarjit and Biger, (2010) depict negative relationship in between firm's ACP and profitability and a positive relationship in between CCC and profitability. Padachi, (2006) investigated the inventory conversion period (ICP) has significant impact on profitability of firm, inventory being a less liquid asset takes time to be converted into cash inflow (sales), if firm sold their inventory immediately in result the profitability would be positively associated and vice versa, moreover, he observed that the ACP and CCC have also significant impact on financial performance (Profitability). The firm's value depends on the appropriate WCM (Deloof, 2003). Furthermore, he stated that firm's value increases the wealth of shareholder, simply it means that firms having more value automatically gives capital gains to stockholders, thus, in that situation stockholder would be more willing to buy the company's share and simultaneously firms would also generate equity funds to run the operations. It is possible if firm manage their WC. In the literature we have observed that the subject matter in controversial among several researchers, thus it is hard to say one statement for the WCM and monetary performance of firms. Moreover, we have observed that in the computation process of WCM researchers have used different proxies like Inventory turnover ratio (ITO), Average collection period (ACP), Cash conversion cycle (CCC) and Average payment period (APP). On the other side, in the computation of financial performance proxies like Return on Equity (ROE), Earnings before interest and tax (EBIT)/(PBIT), Return on assets (ROA) have been used. Most of the researchers have used traditional techniques like Correlation and Multiple regression analyses to analyse the intensity of relationship between WCM and MP or FP. Although, we observed that researcher have criticised the hypothesis of several studies. The main critics in the literature were (Vural et al, 2012; Uyar, 2009; Sen et al, 2009; Shaw, 2006). Some of the researchers stated that effective collection from account receivables lead a better impact on profitability of firm, while some stated that the firm's value maximization create core of intention to stockholders to invest in company. However, some researchers suggest that firm should increase the cash flow by purchasing inventories/raw material on credit to improve the cash inflows which may increase the profitability of firm, and on aggregate level it effects the overall performance of firm. Furthermore, the literature shows that the evidences of researchers are diverse in accordance of sample taken from different parts of the world, the results also varied among various industries round the globe. However, it is notion that the financial performance of firms is broadly affected by the efficient management of WC. Moreover, sampled taken in the studies are different in sense of nature and numbers of industries, some researchers considered manufacturing

industries and others had chosen financial sector as well as trading concerns. It is fact that all the economic groups in an economy are important into some extent for economic growth, therefore, different sectors had been chosen to understand and resolve the issues of WCM over financial performance of firms. In the same direction this study has focused on manufacturing industry of Pakistan. In the literature we find that the impact of WC on the financial performance of manufacturing firms hasn't much studied in the case of Pakistan. However, some researches have been investigated in Pakistan i.e. (Qureshi, 2014; Malik & Muhammad,2014; Abor & Joshua, 2004; Mobeen et. al, 2011; Raheman & Nasr, 2007; Ahmad et. al. 2014). Therefore, this paper adds up some supportive evidences to these studies on the basis of Pakistani manufacturing businesses while measuring impact of WCM and monetary performance. This research is representing the manufacturing sector into sub-portions of several industries. Though, in manufacturing sectors, we have several sub heads of manufacturing concerns labelled into various economic groups like Pharmaceutical and Bio tech, Cement, Sugar, Beverages, Automobile, Textile, oil and gas, Technology and Hardware and Industrial metal and Mining. This was one of the reason to do research to understand the collective results of WCM on the financial performance of these firms because in literature we have observed that the subject matter of WCM has been controversial among researchers due to the reason that firms are scattered today in shape of nature, location, political and economic situations and financial position. In that regard, some of the researchers investigated a positive correlation between WCM and FP of firms and others observed negative relationship between these two variables. This study has taken the sample of 50 manufacturing firms which are listed in PSX and the data was collected over the period of 2010-2015 to investigate the relationship between working capital management (WCM) and Financial Performance/Monetary Performance (FP/MP) of firms.

3. Hypothesis Development & Conceptual Framework:

As we have observed in the literature, the results of WCM of FP are controversial among researchers. In most of the studies WCM is measured, based on ITO, APP, CCC and ACP while on the other side FP is being measure using the proxies of EPS, ROE and ROA. The literature showed a negative impact of WCM on FP. Following the results of the previous researches we have developed the hypotheses in the same direction which show a negative impact of working capital management (WCM) on Financial Performance (FP) of Pakistani manufacturing firms. Moreover, in the hypothesis development one independent variable of WCM average collection period (ACP) has found a positive association on FP. On the above grounds we have developed following hypothesis to investigate the results.

Hypothesis of the Study:

H1a: CCC has a significant and positive impact on ROA.
H1b: CCC has a significant and negative impact on ROE.
H1c: CCC has a significant and negative impact on EPS.
H2a: APP has a significant and negative impact on ROA.
H2b: APP has a significant and negative impact on ROE.
H2c: APP has a significant and negative impact on EPS.
H3a: ITO has a significant and negative impact on ROA.
H3b: ITO has a significant and negative impact on ROE.
H3c: ITO has a significant and negative impact on EPS.
H4a: ACP has a significant and positive impact on ROA.
H4b: ACP has a significant and positive impact on ROE.
H4c: ACP has a significant and positive impact on EPS.

The study model (Figure-1) illustrates that the CCC, APP, ITO and ACP are considered as independent variables and Financial performance (Dependent variable) includes ROA, ROE and EPS as dependent variable Moreover, Leverage, Firm Size and Age of firm used as control variables.

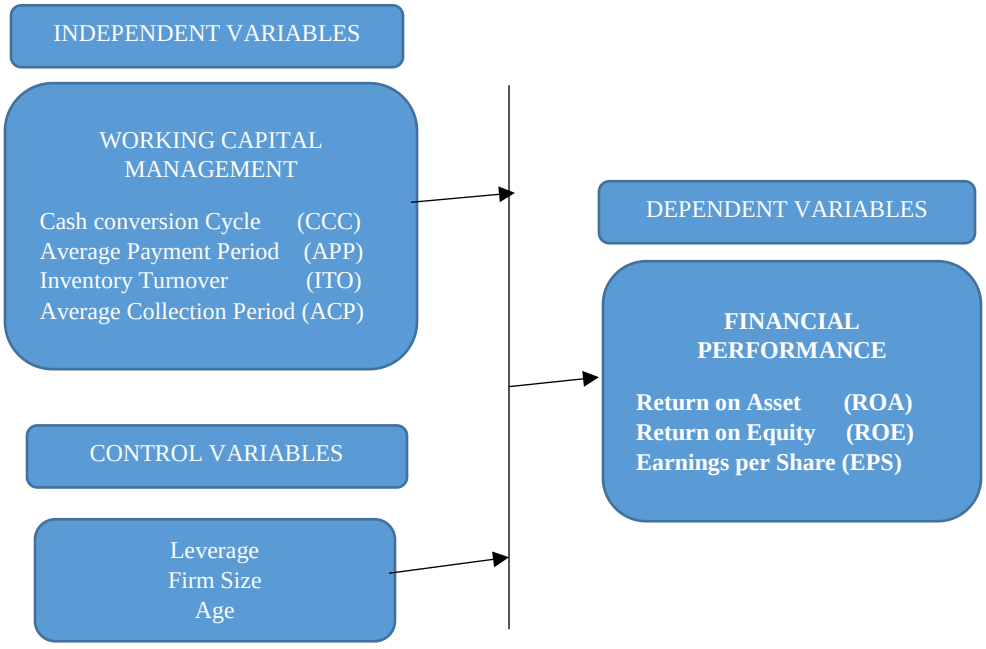

Figure 1: Conceptual Framework of the Study

4. Methodology

This study is quantitative in nature. A population size of 50 manufacturing firms has been chosen which are listed is PSX over the period of 2010-2015. Moreover, those firms who have not submitted their annual financial report were skipped from this study. We have taken sample from the manufacturing sectors, we have several sub heads of manufacturing concerns labelled into various economic groups like Pharmaceutical and Bio tech, Cement, Sugar, Beverages, Automobile, Textile, exploration industries (like Oil and Gas), Technology and Hardware and Industrial metal and Mining. The sectors are listed in the Pakistan stock exchange (PSX). The services sector is not taken in this study because of the nature of their business. The transactions which are made by manufacturing sector are distinct to the transactions of services group. Therefore, we cannot apply the same Employed Capital policy of manufacturing concerns on services concerns. Moreover, we have used purposive sampling to select the firms from the various manufacturing sectors. This study is based on secondary data and we have collected data from the official websites of sampled manufacturing firms, some annual reports from the website of Pakistan stock exchange because all the firms are listed in the PSX, therefore it is a valid source to collect financial information, moreover, a summarized data of all manufacturing concerns is collected from the publication of State Bank of Pakistan (SBP) "Balance sheet Analyses of joint stock companies from 2010-2015". This study has used correlation and regression techniques in investigating study variables, and before drawing an inference of correlation and regression, this study has described complete data set in descriptive statistics. This study portrayed three Multiple regression models.

Multiple Regression Models:

1st Model:

$$ROA = \beta_0 + \beta_1 CCC + \beta_2 APP + \beta_3 ITO + \beta_4 ACP + \beta_5 LEV + \beta_6 SZ + \beta_7 AG + \mathcal{E}$$

Where;

β_0 = Constant Value
ROA = Return on Assets
CCC = Cash Conversion Cycle
APP = Average Payment Period
ITO = Inventory Turnover
ACP = Average Collection Period
Lev = Leverage
SZ = Firm's Sze

AG = Age of Firm
$\mathcal{E}$ = Error Term

2nd Model:

$$ROE = \beta_0 + \beta_1 CCC + \beta_2 APP + \beta_3 ITO + \beta_4 ACP + \beta_5 LEV + \beta_6 SZ + \beta_7 AG + \mathcal{E}$$

Where;

β_0 = Constant Value
ROE = Return on Equity
CCC = Cash Conversion Cycle
APP = Average Payment Period
ITO = Inventory Turnover
ACP = Average Collection Period
Lev = Leverage
SZ = Firm's Sze
AG = Age of Firm
$\mathcal{E}$ = Error Term

3rd Model:

$$EPS = \beta_0 + \beta_1 CCC + \beta_2 APP + \beta_3 ITO + \beta_4 ACP + \beta_5 LEV + \beta_6 SZ + \beta_7 AG + \mathcal{E}$$

Where;

β_0 = Constant Value
EPS = Earnings Per share
CCC = Cash Conversion Cycle
APP = Average Payment Period
ITO = Inventory Turnover
ACP = Average Collection Period
Lev = Leverage
SZ = Firm's Sze
AG = Age of Firm
$\mathcal{E}$ = Error Term

5. Results And Discussions

This section is divided into three parts. First, we explain the Proxies which were used to compute the study variables (Dependent/Independent variables). Second, whole sampled data set of manufacturing firms was summarised by the descriptive statistics and third, we have described the results of correlation and regression of the three regression models of the study. Moreover, we also suggested some questions for future research on the study topic.

Table 1: Proxy Definitions

Dependent & Independent variables	Description in Full	Measurement
ROA	Return on assets	Net income after tax/Total Assets
ROE	Return on Equity	Net income after tax/Equity
EPS	Earnings Per Share	Income Available for common stockholders/Outstanding shares
CCC	Cash Conversion Cycle	RCP+ITO-APP
APP	Average Payment Period	Purchase/Average a/c payable×365
ITO	Inventory Turnover	Cost of goods sold/ Average inventory ×365
ACP	Average collection period	Sales/ Average a/c Receivable ×365
LEV	Leverage	Total Debt/ Total Assets
SZ	Firm Size	Natural Logarithm of total Assets
AG	Age of Firm	Natural log of Age (From formation of firm)

Table 1 refers the variables column in which we can observe the study variables (Dependent/Independent variables). ROA, ROE and EPS are dependent variables to compute financial performance of the firms. Moreover, WCM includes the independent variable like CCC, APP, ITO and ACP, furthermore, we have used some control variables to draw out the appropriate results of FP these control variables are Leverage, Firm's Size and Age of firm. The second column of the above table-1 shows the full abbreviations of each variable and the last column depicts the proxy measure of all variables. The financial data of all the sampled firms are computed based on the above proxies than it was entered in the SPSS for further proceedings like descriptive statistics, correlation matrix and regression for the all three models of the study.

Table 2: Descriptive Statistics (2010-2015)

Variables	Min	Max	Mean	St: Deviation
ROA	25.39	51.23	34.15	37.13
ROE	08.23	71.17	21.18	22.62
EPS	07.69	68.23	28.29	29.31
CCC	71.52	116.19	30.10	29.99
APP	31.12	61.11	24.88	22.56
ITO	18.00	58.00	32.19	34.11
ACP	33.10	76.18	38.18	37.14
LEV	00.12	02.59	00.60	00.57
SZ	04.59	10.66	07.33	00.46
AG	00.60	01.26	01.12	00.19

Table 2 shows a summarised view of all the sampled data of Pakistani Manufacturing firms which are listed in PSX over the period of 2010-2015. It is a useful way to understand the whole data set in a concise manner. We included min, max, Mean and std. deviation columns in descriptive statistics. The variable ROA shows a mean value of 34.15. It represents that if company invests 1 rupee so they may generate 34.15 return on the investment in their assets. In the same manner ROE refers 21.18 return on the equity in the mean value and EPS depicts 28.29 rupees on the earnings per share. Furthermore, the mean values of CCC, APP, ITO and ACP represents the days in which firms convert assets into cash which is important for firms to run day to day operations. The CCC shows that a firm takes 30.10 days to convert their cash from inventory, collection from receivables and payable deferrals. Moreover, the average payment period shows a mean value of 24.88 days to pay their suppliers after availing credit from them. ITO and ACP show the average values of 32.19 and 38.18. ITO refers that how much time a company takes to sale their inventory but it is not necessary that firm should sale all of their inventory on cash, some of the portion of sales may be on credit, therefore, ACP measure that how many days a firm takes to collect cash from account receivables. In that regard the ITO and ACP shows an average of 32.19 days and 38.18 days respectively.

Table 3: Correlation Matrix

Variables	ROA	ROE	EPS	CCC	APP	ITO	ACP	LEV	SZ	AG
ROA	1									
ROE	0.0547	1								
EPS	0.0891	0.0324	1							
CCC	−0.0534	0.0541	−0.0177	1						
APP	−0.5444	−0.0891	0.0398	0.1009	1					
ITO	−0.0472	0.0181	−0.0712	0.0538	0.1206	1				
ACP	−0.0466	−0.0341	0.0281	0.1108	0.0634	0.0734	1			
LEV	0.0522	0.0384	−0.042	−0.0334	0.0151	−0.0401	−0.6522	1		
SZ	0.0129	−0.0662	−0.0671	−0.0172	0.0642	0.02834	−0.1789	−0.1831	1	
AG	−0.007	0.0686	−0.0014	0.0159	−0.1941	0.0611	0.0145	0.1893	0.0896	1

ROA: Return on asset, ROE: Return on equity, EPS: Earning per share, ACP: Average collection period, APP: Average payment period, ITO: Inventory turnover, CCC: Cash conversion cycle

Table 3 depicts the degree of relationship between dependent and independent variables. The correlation table shows the direction of relationship between study variables. In the above table-3 we can observe that the highest negative association is placed in between firm's leverage and average collection period (ACP) having the value of -.6522. This result shows that there is a strongly inverse relationship between Leverage and ACP. Despite of that few study variables have positive correlation and some have negative correlation but all variables carry a very less correlation. Moreover, it can be observed in the correlation table that multicollinearity does not exist in the sampled data set as all variables contains the results of less than .70 or 70%.

Table 4: Regression Model-I Summary

Independent Variable		Coefficient	P value
CCC		0.0547	0.0486*
APP		−0.484	0.0185**
ITO		−0.559	0.0339**
ACP		0.589	0.0579**
LEV		56.4356	0.3098
SZ		19.5645	0.1267
AG		1.9876	0.3278
Constant		76.9805	0.3456
R^2	0.3018	F-Statistics	9.2189
Adj: R^2	0.2812	Probability (F-Statistics)	0.0002

** and * indicates significance at the 5% and 10% level respectively, CCC, APP, ITO, ACP, LEV, SZ and AG stands for Cash Conversion cycle, average payment period, inventory turnover, average collection period, leverage, Size of firm and age of firm, ROA: Return on asset, ROE: Return on equity, EPS: Earning per share.

Table 4 shows the results of 1st regression equation of this study. In this equation we concluded the impact of WCM on FP of firms. In the first regression equation we have taken Return on assets (ROA) as dependent variable. The results of P values and F-statistics shows the model's goodness of fit. The F-Statistics is at 9.2189 and P values are also at their significant levels of 5% and 10% which indicates model fitness. The R^2 is at .3018 or 30.18% which determined that there is 30.18% impact of independent variables on the financial performance of firms. However, the constant value is statistically insignificant which shows that there are no other factors to affect the FP of firms. Furthermore, the coefficient column shows that CCC has statistically significant and positive impact on ROA. Moreover, APP and ITO is statistically significant and negatively associated with ROA. However, ACP is significant and positively related to ROA as it was hypothesised in the study. The relative results were observed in the studies of (Majeed et al. 2013; Ali, 2011; Deloof, 2003).

Table 5: Regression Model-II Summary

Independent Variable		Coefficient	P value
CCC		−0.045	0.0767*
APP		−0.1609	0.0432**
ITO		−0.5971	0.0061*
ACP		0.4821	0.0387**
LEV		46.1812	0.1523
SZ		26.7443	0.8109
AG		2.9873	0.9984
Constant		903.6176	0.1567
R^2	0.3178	F-Statistics	10.8822
Adj: R^2	0.3086	Probability (F-Statistics)	0.0003

** and * indicates significance at the 5% and 10% level respectively, CCC, APP, ITO, ACP, LEV, SZ and AG stands for Cash Conversion cycle, average payment period, inventory turnover, average collection period, leverage, Size of firm and age of firm, ROA: Return on asset, ROE: Return on equity, EPS: Earning per share

Table 5 shows the results of 2nd regression equation of this study. This model tends to find the impact of WCM of FP of firms, however in this model the FP is observed on the basis of Return on equity (ROE). Moreover, WCM (CCC, APP, ITO and ACP) is same as we observed in the first model of the study. The above table depicts significant F-Stat 10.8822 and P values. Furthermore, the regression summary shows the R^2 0.3178 or 31.78%. It simply shows that the WCM (CCC, APP, ITO and ACP) creates 31,78% impact on the FP (ROE) of firms. The constant value denotes the insignificance which confirms that there are no additional components which could affect the dependent variable. The results are nearly related to the study of (Qureshi, 2014; Ali, 2011; Sharma and Kumar, 2011).

Table 6: Regression Model-III Summary

Independent Variable		Coefficient	P value
CCC		−0.006	0.0967*
APP		−0.1609	0.1932*
ITO		−0.5971	0.0061**
ACP		0.4821	0.0387**
LEV		46.1812	0.1523
SZ		26.7443	0.8109
AG		2.9873	0.9984
Constant		−903.617	0.1567
R^2	31.22	F-Statistics	9.142
Adj: R^2	30.43	Probability (F-Statistics)	0.005

** and * indicates significance at the 5% and 10% level respectively, CCC, APP, ITO, ACP, LEV, SZ and AG stands for Cash Conversion cycle, average payment period, inventory turnover, average collection period, leverage, Size of firm and age of firm, ROA: Return on asset, ROE: Return on equity, EPS: Earning per share

Table 6 shows the results of 3rd and last regression model of the study. The model summary refers the impact of WCM (CCC, APP, ITO and ACP) on FP (EPS). It consists of the significant results in the p value. Moreover, the R^2 shows 31.22 and also significant results are observed in F-statistics of 9.142 with the Probability of 0.005. All independent variables show the negative impact on EPS except ACP. ACP refers a positive impact on EPS which means that if company collects the debt from a/c receivables, their financial performance can be improved. These results are also observed in the studies of (Almazari, 2014 and Qureshi,2014).

6. Conclusion

This study concluded and measured the impact of WCM on FP of firms (Manufacturing concerns) which are listed in Pakistan stock exchange. A population size of 50 manufacturing firms was chosen which are listed is PSX over the period of 2010-2015. Moreover, those firms who have not submitted their annual financial report were skipped from this study. We have taken samples from the manufacturing sectors, we have several sub heads of manufacturing concerns labelled into various economic groups like Pharmaceutical and Bio tech, Cement, Sugar, Beverages, Automobile, Textile, oil and gas, Technology and Hardware and Industrial metal and Mining. The firms which are in above-mentioned sectors are listed in the Pakistan Stock Exchange (PSX). In this study WCM is considered as (CCC, APP, ITO and ACP) and FP referred (ROA, ROE and EPS). We have constructed three multiple regression models to measure the impact of WCM on MP/FP. We used descriptive statistics to summarise and explain the aggregate data set and we also used correlation technique to understand the relationship among the variables. Therefore, it was observed that there was no issue of multicollinearity because no variable exceeds from the .70 or 70%. All three multiple regression models were statistically significant based on P value and F-statistics. Furthermore, it was observed that in the regression coefficient table of the first regression model CCC and APP have statistical significant and positive impact on ROA but contrary APP and ITO have a significant but negative impact on ROA. In the second regression coefficient it was seen that CCC, APP and IT have a significant and negative impact on ROE and ACP consist a significant and positive impact on ROE. In the third and last coefficient table, nearly the same results were observed as in the second model. In the third regression model, ACP has a positive and significant on EPS and CCC, APP and ITO have a negative impact on EPS. This study has some relevant findings in comparison of the previous studies of (Sharma & Kumar, 2011; Deloof, 2003)

7. Recommendations

This study considers some recommendations based on its results. This study prefers to recommend that the financial managers of firms must set a best force to control the working capital variables like CCC, APP, ITO and ACP. As it was observed that apt and prompt WCM may affect the aggregate financial performance of firm.managers should look after consciously.

Fall in CCC leads to increase in the FP and increase in CCC tends to decrease the FP of firm. Therefore, the ideal situation is to set an equilibrium point of CCC to manage FP appropriately.

As it was observed in all three models that ACP has a positive impact on ROA, ROE and EPS. It means that firms collect their credits from account receivable on time, they maintained a suitable aging schedule of receivable. However, if ACP may negative so it would show that firm is weak in the collection from receivables. Meanwhile, timely collections from receivable may push the firm towards better financial performance. Moreover, ITO was negative observed, it is dangerous situation for firms. It shows that firms are not active to sell the produced inventories. If company delays the inventory conversion into sale so it may leads stop in FP. Quick ITO produced more funds for firms and firm can increase their production capacity due to high demand of goods. ITO can be improved if firms generate a suitable demand, and it is possible when foreign investment and management styles show interest in the Pakistan. Our local community has proved that foreign products are more qualitative than national ones.

8. Limitations of Study:

The current study is limited to manufacturing sector of Pakistan and have a sample size of 50 selective firms. Hence, this study is limited to the 50 firms. The time period of this study is also limited to five years (2010-2015). Only main proxies for WCM and FP are used to find the relationship.

9. Future Suggestions:

This study can be broadening by taking more firms in measuring the effect of WCM. Moreover, the services sector has unique requirements of WC. So the future studies should focus on services sector by taking some more proxies for financial performance and WCM like Tobin's Q, Payables deferrals and net profit margins.

References

Abor, J. (2004), Working capital management and corporate profitability: Evidence from Ghana. LBS Management Review, 9(1), 32-45.

Ademola, O.J. (2014), Working capital management and profitability of selected quoted food and beverages manufacturing firms in Nigeria. European Journal of Accounting Auditing and Finance Research, 2(3), 10-21.

Ahmad, N., Riaz, Z., Iqbal, N. (2014), The relationship between working capital management and profitability: Evidence from Pakistan. International Letters of Social and Humanistic Sciences, (20), 14-25.

Akinlo, O.O. (2011), The effect of working capital on profitability of firms in Nigeria: Evidence from General Method of Moments (GMM). Asian Journal of Business and Management Sciences, 1(2), 130-135.

Alavinasab, E. (2013), Studying the relationship between working capital management and profitability of listed companies in Tehran stock exchange. ©Society for Business and Management Dynamic, 2(7), 01-08.

Ali, S. (2011), Working capital management and the profitability of the manufacturing sector: A case study of Pakistan's textile industry. The Lahore Journal of Economics, 16(2), 141-178.

Almazari, A.A. (2014), The relationship between working capital management and profitability: Evidence from Saudi cement companies. British Journal of Economics, Management and Trade, 4(1), 146-157.

Almazari, A., Quresi, A. (2014), The relationship between working capital management and profitability: Evidence from Saudi cement companies. British Journal of Economics, Management & Trade, 4(1), 146-157.

Amarjit, G., Biger, N. (2010), The relationship between working capital management and profitability: Evidence from the United States. Business and Economics Journal, BEJ-(10), 2010, 6-9.

Azam, D.M., Hider, S.I. (2011), Impact of working capital management on firms' performance: Evidence from non-financial institutions of Kse-30 index. Interdisciplinary Journal Of Contemporary Research in Business, 3(5), 481-492.

Bagchi, B., Khamrui, B. (2012), Relationship between working capital management and profitability: A study of selected FMCG companies in India. Business and Economics Journal, 2012(60), 1-11.

Bellouma, M. (2010), Effect of capital investment on working capital management: Evidence on Tunisan export SME. The International Journal of Finance, 22(3), 6498-6509.

Brealey, R.A., Myers, S.C. (2002), Brealey & Myers on Corporate Finance: Capital Investment and Valuation. New York: McGraw-Hill.

Chashmsayadan, M., Aghajannashtaei, R. (2014), Evaluation the impact of working capital management on firms performance (Case study: Tehran tock exchange). Asian Journal of Research in Banking and Finance, 4(5), 27-42.

Deloof, M. (2003), Does working capital management affect profitability of Belgian firms. Journal of Business Finance and Accounting, 30(3, 4), 306-320.

Dong, H., Su, J. (2010), The relationship between working capital management and profitability: A Vietnam case. International Research Journal of Finance and Economics, 49, 59-67.

Eljelly, A.M. (2004), Liquidity-profitability tradeoff: An empirical investigation in an emerging market. International Journal of Commerce and Management, 14(2), 48-61.

Fathi, S., Tavakolli, Y. (2009), The relationship between working capital management and financial operation of the economic entities. Journal of Business Reviews, 36, 104-116.

Forghani, M., Shirazipour, M., Hosseini, A. (2013), Impact of working capital management on firms performance. Journal of Basic and Applied Scientific Research, 3(7), 943-947.

Ghosh, S.K., Maji, S.G. (2003), Working capital management efficiency: A study on the Indian Cement Industry. The Institute of Cost and Works Accountants of India. Available from: http://www.icwai.org/ icwai/knowledgebank/fm47.pdf.

Gill, A., Biger, N., Mathur, N. (2010), The relationship between working capital management and profitability: Evidence from the United States. Business and Economics Journal, 10, 1-9.

Gitman, L.J. (1994), Principles of Managerial Finance. 7th ed. London: Harper Collins. p646-652.

Gulia, R. (2014), Effects of working capital management on firms profits-evidence from the pharmaceutical sector. International Journal of Management and Social Sciences Research, (IJMSSR), 3(1), 103-107.

Haq, I.U.L., Muhammad, S., Khalid, Z., Zaheer, A. (2011), The relationship between working capital management and profitability: A case study of cement industry in Pakistan. Mediterranean Journal of Social Sciences, 2(2), 365-372.

Horne, J.C., Wachowicz, J.M. (2000), Fundamentals of Financial Management. 11th ed. New York: Prentice Hall Inc.

Kothari, C.R. (2004), Research Methodology: Methods and Techniques. New Delhi: New Age International (P) Ltd., Publishers.

Lazaridis, I., Tryfonidis, D. (2006), Relationship between working capital management and profitability of listed companies in Athens stock exchange. A Journal of Financial Management and Analysis, 19(1), 26-35.

Makori, D.M., Jagongo, A. (2013), Working capital management and firm profitability: Empirical evidence from manufacturing and construction firms listed on Nairobi securities exchange, Kenya. International Journal of Accounting and Taxation, 1(1), 1-14.

Malik, M.S., Mahumad, B. (2014), The impact of working capital management on corporate performance: A study of firms in cement, chemical and engineering sectors of Pakistan. Pakistan Journal of Commerce and Social Sciences, 8(1), 134-148.

Mansuri, E., Joriah, M. (2012), The effect of working capital management on firm's profitability: Evidence from Singapore. Interdisciplinary Journal of Contemporary Research in Business, 4, 472-486.

Mobeen, A.H., Ali, L., Abdu, R., Akram, M. (2011), Impact of working capital management on profitability and market valuation of Pakistani firms. European Journal of Economics, Finance and Administrative Sciences, 32, 48-54.

Mukhopadhyay, D. (2004), Working capital management in heavy engineering firms - A case study. Available from: http://www. myicwai.com/knowledge bank/fm48.

Napompech, K. (2012), Effects of working capital management on the profitability of Thai listed firms. International Journal of Trade, Economics and Finance, 3(3), 227-232.

Naveed, A., Nadeem, M., Hammad, N. (2014), Impact of working capital on corporate performance: A case study from cement, chemical and engineering sectors of Pakistan. Arabian Journal of Business and Management Review (Oman Chapter), 3(7), 12-22.

Nazir, M.S., Afza, T. (2008), On the factors determining working capital requirements. Proceedings of ASBBS, 15(1), 293-301.

Nazir, M.S., Afza, T. (2009), Impact of aggressive working capital management policy on firms' profitability. IUP Journal of Applied Finance,15(8), 19-30.

Nobanee, H., Abdul, L.M., Aslhajjar, M. (2011), Cash conversion cycle and firm's performance of Japanese firms. Asian Review of Accounting, 19(2), 147-156.

Nwankwo, O., Osho, G.S. (2010), An empirical analysis of corporate survival and growth: Evidence from efficient working capital management. International Journal of Scholarly Academic Intellectual Diversity, 12(1), 1-13.

Odi, N., Solomon, O. (2010), An empirical analysis of corporate survival and growth. Evidence: From Efficient Working Capital Management, 12(1), 1-13.

Padachi, K. (2006), Trends in working capital management and its impact on firms performance. An analysis of Mauritanian small firms. International Review of Business Research Papers, 2(2), 45-58.

Pouraghajan, E. (2012), The relationship between capital structure and firm performance evaluation measures: Evidence from the Tehran stock exchange. International Journal of Business and Commerce, 1(9), 166-181.

Qureshi, M.A. (2014), Relationship of operating cycle and firm's returns: Cases from manufacturing firms listed in KSE Pakistan. International Journal of Advance Research, IJOAR, 2(2), 1-10.

Raheman, A., Nasr, M. (2007), Working capital management and profitability–case of Pakistani firms. International Review of Business Research Papers, 3(1), 279-300.

Rajesh, M., Reddy, V. (2011), Impact of working capital management on firms' profitability. Global Journal of Finance and Management, 3(1), 151-158.

Sarniloglu, F., Demirgunes, K. (2008), The effect of working capital management on firm profitability: Evidence From Turkey. International Journal of Applied Economics and Finance, 10(2), 44-50.

Sen, M., Eda, O. (2009), Relationship between efficiency level of working capital management and return on total assets is ISE. International Journal of Business and Management, 4(10), 109-114.

Sharma, A.K., Kumar, S. (2011), Effect of working capital management on firm profitability: Empirical evidence from India. Global Business Review, 12(1), 159-173.

Shaw, B. (2006), Are Mark Able Book About Human Behavior and A Worldwide Best Seller.

Singh, K., Asress, F.C. (2011), Determining working capital solvency level and its effect on profitability in selected Indian manufacturing firms. International Journal of Research in Commerce, Economics and Management, 1(2), 52-57.

Taani, M.H. (2011), The effect of financial ratios, firm size and cash flows from operating activities on earnings per share: (An Applied Study: On Jordanian Industrial Sector). International Journal of Social Sciences and Humanity Studies, 3, 197-205.

Taleb, G.A., Zoued, A.N., Shubiri, F.N. (2010), The determinants of effective working capital management policy: A case study on Jordan. Interdisciplinary Journal of Contemporary Research in Business, 2(4), 248-264.

Uremadu, J.A., Egbide, B., Enyi, P.E. (2012), Working capital management, liquidity and corporate profitability among quoted firms in Nigeria: Evidence From the productive sector. International Journal of Academic Research in Accounting, Finance and Management Sciences, 2(1), 80-97.

Uyar, A. (2009), The relationship of cash conversion cycle with firm size and profitability: An empirical investigation in Turkey. International Research Journal of Finance and Economics, 24, 186-193.

Vural, G., Sokmen, A.H., Cetenak, E.H. (2012), Effects of working capital management on firm's performance: Evidence from Turkey. International Journal of Economics and Financial Issues, 2(4), 488-495.

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Experiential value mediates relationship between Experiential Marketing and Customer Satisfaction

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Abstract

This empirical study explores mediating role of experiential value between experiential marketing and Customer satisfaction in the context of Pakistan. The Experiential marketing is used as independent variable consisting of five dimensions (Sense Experience, Feel Experience, Think Experience, Act Experience and Relate Experience), Experiential value is used as mediator which consists of four dimensions- aesthetic, playfulness, service excellence, and consumer return on investment (CROI) Customer Satisfaction is used as dependent variable in this study. Fast food industry is selected in current study. Survey method is used to collect data, SPSS (18) and AMOS (18) versions are used for data analysis. Results are supporting the hypothesis that experiential value mediates relationship between experiential marketing and customer satisfaction. This particular research work is among few relevant studies in which the mediating role explored among the experiential value between experiential marketing and customer satisfaction. The current study will benefit marketers in understanding the importance of customer's experiences, experiential value that leads to Customer Satisfaction.

Keywords: *Experiential value, experiential marketing, Customer experience, Customer satisfaction*

1. Introduction

As we are living in the experience economy, nowadays many companies are focusing on creating valuable and memorable experiences with customers. Experiential marketing is new field of marketing which focuses on customer experience while using or interacting with goods and services. Traditional marketing focuses on products features benefits and promotions but nowadays good experiences of customers with product or service are the focus of marketing. Creating valuables experiences for the

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customers is new challenge for marketers. Pine and Gilmore (1998), described the evolution of economic offering and made clarification about his development, in the first stage the classification about the necessity of commodities. In the second stage, which is called the product stage, the companies starting further processes to convert those commodities into finished goods. In the third stage, the goods are combined, which is comprised of tangible products and intangible services known as service stage. The experiential stage is the last stage following the development of the services. So firms in the twenty- first century focus on experience based economy as compared to service based economy (Kim, Cha, Knutson, & Beck, 2011).

In the field of marketing, experiential marketing is not only emphasis on product or its services but also emphasize that how company acquires the entire experience about their services to create its' customers. The main purpose of current study is to observe relationship among experiential marketing, experiential value and customer satisfaction in fast food restaurants in Pakistan. The current research work is among a few studies which explored mediating role of experiential value between experiential marketing and customer satisfaction. Especially in the context of Pakistan such type of study is not conducted. In previous studies effect of each experiential marketing dimension is separately tested on the outcome variables. But in this research effect of experiential marketing dimensions is simultaneously checked with the help of Structural equation modeling. Nowadays fast food demand is increasing due to change in income, taste, life style and social trends in Pakistan. In the past restaurants were considered only the place where people came to eat meal. But now people visit restaurants not only to eat meal but for the attractive environment, where they may feel comfort and have memorable experience. The factors that influence customer experience, experiential value and customer satisfaction in fast food restaurants include food quality and Price, staff service and physical environment. Nowadays instead of advertising, packing, promotion customer satisfaction depends on experiences that customer gets while using product or interacting with services. To create memorable experiences for the customers is new emerging challenging for the marketers, Products of hospitality and tourism industry are always experiential (Williams, 2006) . For example, people go to restaurants not only to eat food but also for the enjoyment, rest and for a good environment. (Y. H. E. Yuan & C. K. Wu, 2008).

As Douglas and Craig (2011) have included Pakistan into next 11 best markets for multinational corporations (MNCs) having Population of 175 million and GDP 167 billion dollars, so Pakistan is best market for the foreign and local investors., as Pakistan is included among the countries having high rates in the collectivism index. It means in Pakistan group decision is made and word and mouth has much influence on buying decision process. So focusing on memorable experiences will not only retain existing customers but will attract new customers. Demand of fast food restaurants is increasing day by day, fast food restaurants have a long history fast food industry grew rapidly

after 1970. Customers started to go there and a large number of fast food restaurants was opened like Pizza Hutt, Mc Donald, Burger King, Hamburger. In Pakistan, people visit Fast food restaurantS as an amusement activity

1. Literature Review

Experiential marketing

Experiential marketing is the emerging field of marketing that focuses on customer experiences with products and services, traditional marketing focuses on benefits and features of product or service, but Experiential marketing focuses on memorable experiences that a customer have for product or service. Schmitt (1999), described that the experiential marketing is about the customers perception about the company, after purchasing the goods or services. The customers' perception and experience activities may start after acquiring goods or services. Customer good experiences with product or services stimulate him to repurchase a product or service. Many studies show that brand name, word and mouth, price and advertising impacts on customer experiences (Ismail, 2011), customer experience is a combination of interaction of customer with product or service that incite a reaction (Verhoef et al., 2009).

Main theme of Experiential marketing is Extracting importance of product or service and then converting them into physical, intangible, memorable experiences that enhance the scope of product or service and support customers in buying decision process. (Williams, 2006).Companies not only offers products but good memories and experiences (Y. H. E. Yuan & C. K. Wu, 2008). Companies should offer customers successful experiences to get competitive advantage and customer satisfaction (Vila-López & Rodríguez-Molina, 2013). Traditional marketing considers customers as a rational decision maker who only think about functional features and benefits of product while experiential marketing considers consumers as rational and emotional human beings who are conscious regarding delight experiences (Schmitt, 1999). Brand experience has attracted a lot of attention of the marketers, because brand experience is very important in developing marketing strategies (Brakus, Schmitt, & Zarantonello, 2009).

Dimensions of Experiential Marketing

Sense Experience

The five senses like the sight, smell, sound, touch and taste construct a sensory experience. These five senses may create a sensory experience to motivate customers, the sense marketing may affect by these sensory experience. (Schmitt, 1999), discussed that sense experience is important in bringing the change in the mind of customers about the goods or services. Sense marketing construct a value of product or service in mind

of customer, it develops cognitive, behavioral, logical, emotional and relational approach towards the product or service. It helps create a sensory experience about the company's product or service.

Feel Experience

The emotions and moods are concerned with internal feelings: feel experiences comprise the inner emotions and moods. The effective experience may cause with the object of such emotions and moods (Schmitt, 1999) the relation with product or service creates effective feelings. The strong feelings come after the consumptions of product over the period of time.

Think Experience

Schmitt (1999), described that think experience aimed to encourage the customer to think about the product or service. It is a creative and theoretical practice in which the customers are involved to create cognitive experience towards the product or service. The purpose of think experience is to involve the customers to get the feedback for product or service

Act Experience

Schmitt (1999), described that customers improve their act experience by using products physically so their tangible experience guided them by having alternative contacts and the different ways of life style. The act experience helps the customers by having a physical experience towards the product, that is related with behavior and life style, the behavioral pattern and the life style of the customers can be improved by tangible experience. The act experience holds a positive impression to change the behavior of customers in long term in purchase intention towards the company's product or service. Act experience helps the customers build image for the product or service.

Relate Experience

The state of mind and the feelings of individuals are out of relate experience, but is it related to social context of the person which is bounded to any product or service. The persons having social context such as profession, language, gender and living style and social entities are based on the relate experience but the individual's cognition, sensation and feelings are not existing in relate experience. Schmitt (1999), discussed that the person's inside the social context and his/her private outside state of mind are related to relate experience. Relate marketing creates a powerful contacts and experience of customer's individual action, thought and feelings in a cultural environment and society. (Yu & Ko, 2012).

Experiential Value

The customer's perception about product or service either it is direct interaction on indirect observation is said to be the experiential value. Customers can create the experiential value by using product or service. (Gentile, Spiller, & Noci, 2007). Though Wang and Lin (2010) study had concluded that there is a positive relationship between experiential marketing and experiential value and literature supports that an effective experiential marketing is able to create positive experiential value. Traditional customer value is Produced through production processes which will fulfill the traditional marketing concept effectively but recent research shows customer gets value while consuming and purchasing the Product or service (Ponsonby & Boyle, 2004).

For customer satisfaction ,the experiential value is so important. It is also important for purchase behavior and loyalty intention. Chou (2009), said that the consumers are being examined by the experiential value. It can be examined through the dimensions of experiential value like service excellence, playfulness and aesthetics. To prove unique from the competitors the company must deliver the experiential brand value to the customers. It focused on the consumer return on investment rather than delivering the traditional value service quality and price. (Zhang, Dewald, & Neirynck, 2009).

Aesthetic Appeal

The aesthetic appeal is reaction of work performance, command of physical object and a balance proportion (Olson, 1972). There are two directions of aesthetic appeal one is entertainment and dramatic service performance and the other is visual silent environmental elements. The entertainment and service performance is achieved through the display of restaurant, whereas the attractive decoration, beautiful design and proper setting is gained through the visual elements (Holbrook, 1996).

Playfulness

The playfulness is completely intrinsic and self-oriented practice which is generated by the customers. The playfulness is the bliss and happiness that is achieved by using the product or service. The satisfaction and happiness may come from the examination of product/service (Chou, 2009). The playfulness, that specifies essential enjoyment, is the result of inherent enjoyment that results in enchanting triggers (Nigam).

Service Excellence

The service excellence is inherently a reactive response in which product or service meets the demand of customer. The marketing firm is admired by consumer for quality services because excellence in service provides a platform for its product or service to meet the customers' expectations (Keng, Huang, Zheng, & Hsu, 2007). The consistency in service excellence in the product or service is a thankfulness job for service provider towards the customers (Holbrook, 2000).

Customer Return on investment

The financial, behavioral and psychological resources that may give something in return is said to be the customer return on investment (Mathwick, Malhotra, & Rigdon, 2001).

Customer Satisfaction

The product or service which meets the expectations of individual is known as customer satisfaction (Mittal & Groening, 2013). All the features of product or service that satisfy customers by his implied and expressed needs is customer satisfaction (Tontini, Søilen, & Silveira, 2013). From the various relevant studies proved that the positive word and mouth, long term relationship and customer loyalty leads to the higher level of customer satisfaction (Mittal & Frennea, 2010). The important goal for any organization is to satisfy the customers at any cost especially for tourism industry and hotel management, because there are various alternatives are available for customers at various low costs by having one alternative over another (Sandvik & Gronhaug, 2007). If the customer is not satisfied, it means he gained experience below his expectations then customer is not happy, if he is satisfied means the experience gained according to expectations then the customer is happy. The evaluation of product or service that fulfils demand of customer is customer satisfaction, it shows the loyalty towards the product or service. The experiential value and experiential marketing are the bases to construct customer satisfaction. It will lead to satisfy when the product or service will go beyond the expectations of customer. (Choi, Wilson, & Fowler, 2013).

Theoretical Frame Work and Hypotheses

According to above discussion, Experiential marketing leads to experiential value and customer satisfaction. The concept of experiential marketing is composed of five dimensions that are SE (Sense Experience), FE (Feel Experience), TE (Think Experience), AE (Act Experience) and RE (Relate Experience).Whereas experience value is composed of four dimensions that are AA (Aesthetic Appeal), PF (Playfulness), S exc (Service Excellence) and CROI (Consumer Return on Investment). The experiential marketing is independent variable in this current study and the experiential value is the mediator and the dependent variable is the customer satisfaction, as shown in figure 1:

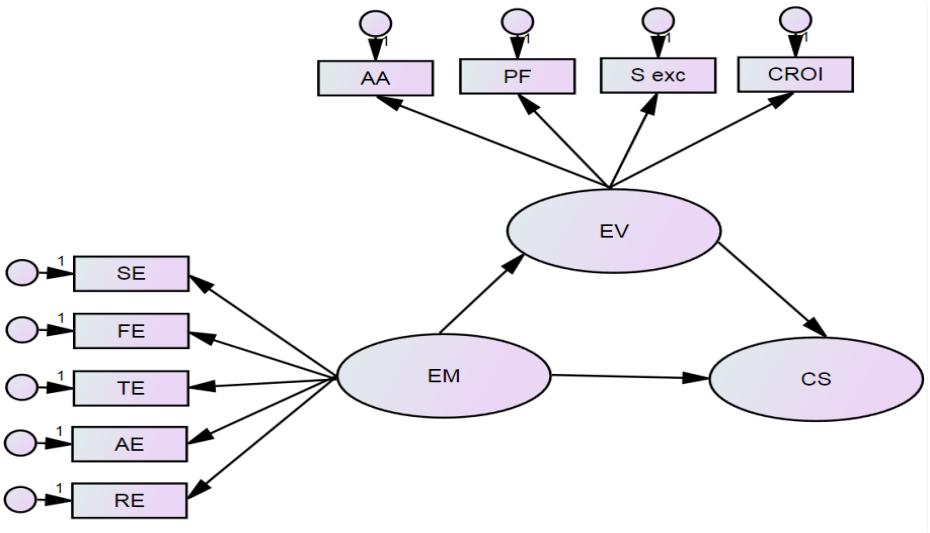

Figure 1: Experiential value mediates relationship between Experiential Marketing and Customer Satisfaction

Wang and Lin (2010), had proved that the experiential marketing has positive relationship with the experiential value. Experiential marketing leads to emotional and function value and also customer satisfaction (Schmitt, 1999). According to T. H. Lee and Chang (2012), there is a significant impact of experiential marketing on the customer satisfaction. However, Y. H. E. Yuan and C. K. Wu (2008) concluded that experiential marketing Partially stimulate customer satisfaction on the other hand M.-S. Lee, Hsiao, and Yang (2010) pointed that there is a direct relationship between the experiential marketing and customer satisfaction.

On the basis of these studies we want to see the direct relationship between the experiential marketing and customer satisfaction or the indirect relationship through the experiential value. The two hypotheses were proposed on the above- based discussion.

Statements of Hypotheses

H_1: There is a direct relationship between the experiential marketing and customer satisfaction.

H_2: Experiential value mediates relationship between experiential marketing and customer satisfaction.

2. Methodology

Survey Instrument

Adopted questionnaire consists of two parts. First parts includes different construct of measurement and second part consists of demographic profile. In first part, three variables are measured, experiential marketing is measured through survey instrument adopted and modified questionnaire of Schmitt's (1999) and assessed tools of experiential marketing; the study of experiential marketing scale, scale adopted by (Lin, Chang, Lin, Tseng, & Lan, 2009). However, experiential value is value (mediator variable) construct was measured by (Mathwick et al., 2001) ; adopted by Lin et al. (2009), the customer satisfaction is the dependent variable which will be measured by likert scale (Czepiel, Rosenberg, & Akerele, 1974). The questionnaire was examined by panel experts and was also tested by small group of customers to examine suitability of measurement. Respondent were suggested to point out their agreement level through likert five- point scale having value from 1 - 5 i.e. Strongly disagree to Strongly agree, as well as four demographic variables were also included in questionnaire.

Data Collection

The data were gathered by using the survey; the 200 questionnaires were randomly distributed in different business schools of four major cities of Sindh province like, Karachi, Hyderabad, Sukkur and Larkana. The sample of this current study were the students for fast food chains are present in these cities and young students used to visit fast food restaurants. The questionnaires were in English and distributed directly by researcher.

Data Analysis

The SPSS (Statistical Package for Social Sciences) V-18 and AMOS (Analysis of Movement Structure) V-18 were used to analyze the data and test the hypotheses. Hypotheses were tested by using the SEM (Structural Equation Modeling) technique, the most flexible and powerfull technique that can solve at a time all the equations and in a causal model either it consists of observed or unobserved variables (Chin, Peterson, & Brown, 2008). Second order confirmatory factors analysis used to examine model fit and mediation technique is being used to test hypothesis. Three steps were used for data analysis. In the first step data was screened and reliability and validity was checked, in second step, model fit was checked, and in third step research hypothesis were tested.

3. Results and Discussion

Profile of Participants

The profile of respondents' age, gender, marital status and education are shown in Table 1 as shown in table that the total number of respondents were 171 out of which 114 (66.7%) were males and the females 57 (33.3%), the age of respondents were in

between the 20- to 24-years (62.5%), the graduates were in majority of (37.4%) and the Post graduates (35.7%), the respondents were students as a sample and most of the students were not married (90%). students sample was selected because they are young and they used to visit Fast food restaurants and like Fast food more than older people in Pakistan, data is collected from Karachi which is the largest city of Pakistan as well as other cities like Hyderabad, Sukkur and Larkana are also among the major cities of Pakistan. Demographic profile of respondents is shown in table 1.

Table 1: Demographic Profile of Respondents

	Frequency	Percentage %
Gender		
Male	114	66.7
Female	57	33.3
Age		
16-19	16	9.4
20-24	107	62.6
25-30	43	25.1
36 & above	4	2.3
36 and above	1	.6
Education		
Intermediate	21	12.3
Graduate	64	37.4
Master	61	35.7
MS	21	12.3
PhD	4	2.3
Marital Status		
Single	155	90.6
Married	16	9.4

Reliability and Validity Analysis

Reliability is the degree in which measurement scales are consistently measuring same results of the research, the value of Cronbach's alpha should greater than 0.7 is reliable as the indicator of scale (Tatham & Black, 1998). Cronbach's alpha values is shown in table 2 are lowest (.70) to highest (8.25) are showing stable results, such results are shown in the table 2.

Table 2: Reliability results of Experiential Marketing, experiential valued Customer Satisfaction

Concept	Sub concept	Cronbach's alpha
Experiential marketing	SE	0.73
	FE	0.72
	TE	0.81
	AE	0.7
	RE	0.74
Experiential Value	Se exc	0.71
	PF	0.74
	AA	0.76
	CROI	0.70
Customer Satisfaction	---	0.82

Validity Analysis

Convergent and discriminant validities were checked for all scales by using procedure (Hair, 2009); which recommends that convergent validity is established when average variance extracted (AVE) > .50; reliability is established when composite reliability (CR) > .70; and discriminant validity is established when maximum shared variance (MSV) < AVE and average shared variance (ASV) < AVE (Hair, 2009). The values of experiential marketing, experiential value and customer satisfaction scale have good convergent validity and discriminant validity as shown in table 3.

Table 3: Validity analysis

	CR	AVE	MSV	ASV
Experiential Marketing	0.9	0.51	0.39	0.39
Experiential Value	0.84	0.54	0.39	0.39
Customer Satisfaction	0.83	0.5	0.39	0.39

Measurement model results

Measurement model focuses that how latent variables can be measured in terms of observed variable and explains measurement properties of observe variable (Diamantopoulos & Siguaw, 2000), measurement model results were derived by applying second order confirmatory actor analysis (2nd order CFA) using Analysis of Movement Structure (AMOS) 18, by keeping all the constructs together following indices were used to asses model adequacy e.g. TLI (Tucker–Lewis Index), CFI (Comparative Fit Index), CMIN/df, and RMSEA (Root-Mean Square Error of

Approximation). Whenever model is first time tested by (all Items and Factors) model was the model fit statistics was poor, (CMIN/df =1.626,CFI = 0.829; TLI = 0.816, RMSEA = 0.06) , those Items having low factor loadings were removed (total 12 items were Removed) one item from sense experience, think experience, relate experience, feel experience and two items from act experience were removed respectively, however among four dimensions of experiential value one item was removed from each dimension respectively except customer return on investment due to low in factor loadings of two items of this dimensions removed. After deleting low factor loading model fit was improved significantly and reached at acceptable level in second model (CMIN/df = 1.499, CFI =0.909; TLI = 0.901, RMSEA = 0.054). Results of full model fit are given in the table 4

Table 4: Structural Model Results

	Description	CMIN/df	TLI	CFI	RMSEA
Model	Full conceptual model	1.499	0.905	0.901	0.054

Note: TLI = Tucker–Lewis Index; CFI = Comparative Fit Index; RMSEA = Root-Mean Square Error of Approximation

The second order of confirmatory factor analysis reliability and validity results indicates that dimensions of experiential value and experiential marketing are actually measuring the experiential value and experiential marketing. For testing hypothesis, structural regression model (SR model) 0 and along 5000 bootstrapping samples were used (Preacher & Hayes, 2008).

Mediation Analysis

Table 5: Mediation Analysis

	Estimates	SE	CR	p Value	Path label
EV <--- EM	2.1	0.158	5.601	***	a
CS <--- EM	1.905	1.3	1.465	0.143	c
CS <--- EV	3.548	1.616	2.295	0.028	b

Hypothesis is tested by path analysis using Structural equation modeling (SEM) with boost strapping (5000). Boost strapping is the most famous method of testing indirect effect (Shrout & Bolger, 2002) and Path analysis is SEM technique which emphasized on inter relation among observed variables which delivers good model-fit and estimate direct and indirect effect among the variables (Meyers, Gamst, & Guarino, 2006), results of the study supports the hypothesis that experiential value mediates relationship between experiential marketing as shown in table 5, the standardized coefficients from EM to EV path (β=2., Sig = .000) and EV to CS path (β=3.548, Sig= 0.028) as compare

to EM to CS path (β= 1.9505, Sig= 0.143). standardized coefficients of path A to B are higher showing that indirect effect is significant as compare to C path and P value also indicates that there is full mediation because the direct effect is not significant, so the results of the study support the hypothesis (H2) that Experiential value mediates relationship between experiential marketing and Customer satisfaction and hypothesis H1 that is experiential marketing has direct relationship is not supported with the customer satisfaction.

4. Conclusion and Implications

The mediating role of experiential value is explored between the experiential marketing and customers' satisfaction in fast food restaurant of Pakistan as proposed in the theoretical model, hypothesis that is "Experiential Value mediates relationship between experiential marketing and Customer Satisfaction" is supported while hypothesis "customer experience has positive relationship with customer satisfaction" is not supported. Thus results are supporting the previous studies that experiential marketing stimulates customer satisfaction by experiential value (Y.-H. Yuan & C. K. Wu, 2008), Experiential marketing has Positive effect on experiential value (Fulbright, Troche, Skudlarski, Gore, & Wexler, 2001; Schmitt, 1999), experiential value has Positive relationship with Customer Satisfaction (Bolton & Drew, 1991; Iglesias & Guillén, 2004), The results of research support that direct effect of experiential marketing on customer satisfaction is not significant but this relationship is mediated by experiential Value.

This research concludes that decoration, delicious food, service quality and whole atmosphere is very important in building memorable customer experiences and customer perceptions. New thing in this research is that whenever company arrange an event, trade exhibition, sample testing or hand to hand demos where customer not only watches product or service but also touches or uses product or Service (Experiential Marketing) whenever customer directly or indirectly interacts with Product or Service, this interaction creates perceptions in the mind of customers (Experiential Value) and this perception will lead to customer satisfaction or dissatisfaction. This shows mediating role of experiential value. This mediating role of experiential value is rarely tested by other researchers in previous studies.

Managers should try to create valuable customer experiences and experiential values because Fast food restaurants are service -oriented businesses. Customers only can retain good experiences with themselves and these experiences will influence on customer satisfaction (Liljander & Strandvik, 1997), bring customer loyalty(Flanagan, Johnston, & Talbot, 2005) and sustain brands (Grace & O'Cass, 2004). Customers nowadays buy brands due to experiential benefits instead of functional benefits (Rageh Ismail, Melewar, Lim, & Woodside, 2011). This research will provide a new insight into marketing because now the managers of hospitality industry should not only focus on products features and attributes but also on the creating memorable experiences for

the customers. Because customer experience in the modern economy is new battle field for the companies (Badgett, Boyce, & Kleinberger, 2007). As customers visit restaurants not only for food but also for a whole dining experience like service quality, aesthetic and wonderful atmosphere. So management of fast-food restaurant should maintain service quality by providing training to its employees, management should also keep restaurant neat and clean as if customers can feel comfort.

Managers should arrange Events, Activates and Programs to create memorable experiences for customers, these memorable customer experiences will impact on the Profitability (Verhoef et al., 2009), Business performance (Prahalad & Ramaswamy, 2004) and outcomes in marketing (e:g customer loyalty, words of mouth and customer satisfaction (Camarero, 2007). Experiential marketing also creates good brand experiences and practitioners and academicians are interested in studying, measuring and creating brand experience and recognize its worth and value in marketing strategies (Zarantonello & Schmitt, 2010). Mangers should focus that how customer interacts employees, service escape and with other customers that are present in the restaurant because these interactions influence customer experience. At the end this research is also important in understanding the relationship between the experiential value, experiential marketing and customer satisfaction.

5. Limitations and Future Research

Sample size and selected sample as students have narrowed research. In order to collect the data the cross sectional design is used; to confirm the relationship over the time the longitudinal study is needed, this research has explored the positive sides of customer experience future research is needed to explore the impact of negative customer experience these variables, it needs to overcome such limitations in the future study. The researchers may conduct the study in future by selecting pure service oriented companies like financial services as well as product oriented business like automobiles and other industry to further confirm this relationship. As this research is conducted in Pakistan, it can be checked in other contexts, experiential advertising and its impact on experiential value and purchasing behavior can be another topic for future research.

References

Badgett, M., Boyce, M. S., & Kleinberger, H. (2007). Turning shoppers into advocates. IBM Institute for Business Value.

Bolton, R. N., & Drew, J. H. (1991). A longitudinal analysis of the impact of service changes on customer attitudes. The Journal of Marketing, 1-9.

Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: what is it? How is it measured? Does it affect loyalty? Journal of Marketing, 73(3), 52-68.

Camarero, C. (2007). Relationship orientation or service quality?: What is the trigger of performance in financial and insurance services? International Journal of Bank Marketing, 25(6), 406-426.

Chin, W. W., Peterson, R. A., & Brown, S. P. (2008). Structural equation modeling in marketing: some practical reminders. The Journal of Marketing Theory and Practice, 16(4), 287-298.

Choi, E. K., Wilson, A., & Fowler, D. (2013). Exploring customer experiential components and the conceptual framework of customer experience, customer satisfaction, and actual behavior. Journal of Foodservice Business Research, 16(4), 347-358. doi: 10.1080/15378020.2013.824263

Chou, H.-J. (2009). The effect of experiential and relationship marketing on customer value: a case study of international american casual dining chains in taiwan. Social Behavior & Personality: An International Journal, 37(7).

Czepiel, J. A., Rosenberg, L. J., & Akerele, A. (1974). Perspectives on consumer satisfaction: New York University, Graduate School of Business Administration.

Diamantopoulos, A., & Siguaw, J. A. (2000). Introducing LISREL: A guide for the uninitiated: Sage.

Douglas, S. P., & Craig, C. S. (2011). Convergence and divergence: developing a semiglobal marketing strategy. Journal of International Marketing, 19(1), 82-101.

Flanagan, P., Johnston, R., & Talbot, D. (2005). Customer confidence: the development of a "pre-experience" concept. International Journal of Service Industry Management, 16(4), 373-384.

Fulbright, R. K., Troche, C. J., Skudlarski, P., Gore, J. C., & Wexler, B. E. (2001). Functional MR imaging of regional brain activation associated with the affective experience of pain. American Journal of Roentgenology, 177(5), 1205-1210.

Gentile, C., Spiller, N., & Noci, G. (2007). How to Sustain the Customer Experience:: An Overview of Experience Components that Co-create Value With the Customer. European Management Journal, 25(5), 395-410.

Grace, D., & O'Cass, A. (2004). Examining service experiences and post-consumption evaluations. Journal of Services Marketing, 18(6), 450-461.

Hair, J. F. (2009). Multivariate data analysis.

Holbrook, M. B. (1996). Customer Value--A Framework For Analysis and Research. Advances in consumer research, 23(1).

Holbrook, M. B. (2000). The millennial consumer in the texts of our times: Experience and entertainment. Journal of Macromarketing, 20(2), 178-192.

Iglesias, M. P., & Guillén, M. J. Y. (2004). Perceived quality and price: their impact on the satisfaction of restaurant customers. International Journal of Contemporary Hospitality Management, 16(6), 373-379.

Ismail, A. R. (2011). Experience Marketing: An Empirical Investigation. Journal of Relationship Marketing, 10(3), 167-201. doi: 10.1080/15332667.2011.599703

Keng, C.-J., Huang, T.-L., Zheng, L.-J., & Hsu, M. K. (2007). Modeling service encounters and customer experiential value in retailing: An empirical investigation of shopping mall customers in Taiwan. International Journal of Service Industry Management, 18(4), 349-367.

Kim, S., Cha, J., Knutson, B. J., & Beck, J. A. (2011). Development and testing of the Consumer Experience Index (CEI). Managing Service Quality, 21(2), 112-132.

Lee, M.-S., Hsiao, H.-D., & Yang, M.-F. (2010). The study of the relationships among experiential marketing, service quality, customer satisfaction and customer loyalty. International Journal of Organizational Innovation, 3(2).

Lee, T. H., & Chang, Y. S. (2012). The influence of experiential marketing and activity involvement on the loyalty intentions of wine tourists in Taiwan. Leisure Studies, 31(1), 103-121. doi: 10.1080/02614367.2011.568067

Liljander, V., & Strandvik, T. (1997). Emotions in service satisfaction. International Journal of Service Industry Management, 8(2), 148-169.

Lin, K.-M., Chang, C.-M., Lin, Z.-P., Tseng, M.-L., & Lan, L. W. (2009). Application of Experiential Marketing Strategy to Identify Factors Affecting Guests' Leisure Behaviour in Taiwan Hot-Spring Hotel. WSEAS Transactions on Business and Economics, 6(5), 229-240.

Mathwick, C., Malhotra, N., & Rigdon, E. (2001). Experiential value: conceptualization, measurement and application in the catalog and Internet shopping environment☆. Journal of retailing, 77(1), 39-56.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). Applied multivariate research: Design and interpretation: Sage.

Mittal, V., & Frennea, C. (2010). Customer satisfaction: a strategic review and guidelines for managers. MSI Fast Forward Series, Marketing Science Institute, Cambridge, MA.

Mittal, V., & Groening, C. (2013). Allocation of Resources to Customer Satisfaction and Delight Based on Utilitarian and Hedonic Benefits. Mittal, Vikas and Groening, Christopher, Allocation of Resources to Customer Satisfaction and Delight Based on Utilitarian and Hedonic Benefits (2013).

Nigam, A. Modeling Relationship between Experiential Marketing, Experiential Value and Purchase Intension in Organized Quick Service Chain Restaurants Using Structural Equation Modeling Approach.

Olson, J. C. (1972). What is an esthetic response? Paper presented at the Proceedings of the Third Annual Conference of the Association for Consumer Research.

Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. Harvard business review, 76, 97-105.

Ponsonby, S., & Boyle, E. (2004). The 'Value Of Marketing' and 'The Marketing Of Value' in Contemporary Times –A Literature Review and Research Agenda. Journal of Marketing Management, 20(3-4), 343-361. doi: 10.1362/026725704323080443

Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. Journal of interactive marketing, 18(3), 5-14.

Rageh Ismail, A., Melewar, T., Lim, L., & Woodside, A. (2011). Customer experiences with brands: Literature review and research directions. The Marketing Review, 11(3), 205-225.

Sandvik, K., & Gronhaug, K. (2007). How well does the firm know its customers? The moderating effect of market orientation in the hospitality industry. Tourism Economics, 13(1), 5-23.

Schmitt, B. (1999). Experiential Marketing. Journal of Marketing Management, 15(1-3), 53-67. doi: 10.1362/026725799784870496

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: new procedures and recommendations. Psychological methods, 7(4), 422.

Tatham, R. L., & Black, W. C. (1998). Multivariate data analysis. Prcentice Hall, New Jersey. Titman, S. and R. Wessels, 1(1988), 1-19.

Tontini, G., Søilen, K. S., & Silveira, A. (2013). How do interactions of Kano model attributes affect customer satisfaction? An analysis based on psychological foundations. Total Quality Management & Business Excellence, 24(11-12), 1253-1271.

Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). Customer Experience Creation: Determinants, Dynamics and Management Strategies. Journal of Retailing, 85(1), 31-41. doi: 10.1016/j.jretai.2008.11.001

Vila-López, N., & Rodríguez-Molina, M. (2013). Event-brand transfer in an entertainment service: experiential marketing. Industrial Management & Data Systems, 113(5), 712-731. doi: 10.1108/02635571311324160

Wang, C. Y., & Lin, C. H. (2010). A study of the effect of tv drama on relationships among tourists'experiential marketing, experiential value and satisfaction. International Journal of organizational innovation, 2(3).

Williams, A. (2006). Tourism and hospitality marketing: fantasy, feeling and fun. International Journal of Contemporary Hospitality Management, 18(6), 482-495. doi: 10.1108/09596110610681520

Yu, H., & Ko, H.-T. (2012). Integrating Kano model with strategic experiential modules in developing ICT-enabled services: An empirical study. Management Decision, 50(1), 7-20. doi: 10.1108/00251741211194840

Yuan, Y.-H., & Wu, C. K. (2008). Relationships among experiential marketing, experiential value, and customer satisfaction. Journal of Hospitality & Tourism Research, 32(3), 387-410.

Yuan, Y. H. E., & Wu, C. K. (2008). Relationships among Experiential Marketing, Experiential Value, and Customer Satisfaction. Journal of Hospitality & Tourism Research, 32(3), 387-410. doi: 10.1177/1096348008317392

Zarantonello, L., & Schmitt, B. H. (2010). Using the brand experience scale to profile consumers and predict consumer behaviour. Journal of Brand Management, 17(7), 532-540.

Zhang, J., Dewald, B., & Neirynck, B. C. (2009). Experiential values for casino hotels in Macao. Journal of Quality Assurance in Hospitality & Tourism, 10(2), 75-92.

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The Impact of the Social Networking Sites on the Research Activity of University Students

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Abstract

Despite the widespread utilization of online networking by students and its expanded use by teachers, almost no experimental proof is accessible concerning the effect of social networking use on learner, learning and engagement. This paper investigates the impact of social Networking Sites on the research activity of university students. The sample is composed of 200 students from the PU, Lahore and UET, Lahore, out of which 87 male (43.5%) and 113 females (56.5%) responded the questionnaire of survey. The finding reveals that Facebook was utilized for different sorts of scholastic and co-curricular talks. The ANOVA results demonstrated that the trial gathering had an altogether more noteworthy expand in engagement than the control bunch, and additionally higher semester evaluation point midpoints. This research also demonstrates that the motivation behind joining a social networking site differs among the students, however, the reason for being is to stay connected with the group to further impart learning to others. Presentation to late information, abilities and innovation in their general vicinity of specialization started things out.

Keywords: *Social Network Sites, University, Research Activity, ANOVA*

1. Introduction

As of late, the long range informal communication site has turned into a standout amongst the most imperative correspondence implies. Regardless individual to individual correspondence exist looking into a definitive concentration to give correspondence among people paying little regard to the package, making it open to people sensibly give data, records, pictures and parts, make area and send messages, and lead solid talks. These structures are appeared as social, in a general sense in light of the way that they allow correspondence with amigos, understudies and associates so adequately and potentially. It looks like way props the ties between people of those structures. In the space of web district the most revered are Facebook, Twitter and others. These domains and gatherings are framework for correspondence particularly with different people socially and in media. They are having tremendous and prompting influence essential master in the occasions from the general world fiscally, politically, socially and instructively.

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The driving parts for get-together of Social Networking site are the consistently far reaching find the opportunity to, solace, settlement, and flexibility of social advances (Brown, S. 2010; Schroeder, A., Minocha, S., & Schneider, C, 2010). It has been combat that poor more recognizable prepare, social movements helps social constructivist structures with learning they maybe need to improve understudies' change of appreciation and push learner joint effort (Ferdig, R. E, 2007; Schroeder, A., Minocha, S., & Schneider, C, 2010; McLoughlin, C., & Lee, J. W. L, 2008). An additional preferred standpoint of social advances gave on the web is that they are once in a while free or require immaterial financing, taking out a potential impediment to get-together (Brown, S. 2010).

There are diverse outline and suppositions which saw four honest to goodness slants of Social Networking site use in higher course. These combine, refreshing relationship, overhauling learning inspiration, offering revamp course material, and making bunch limits (Wheeler, S., Yeomans, P., & Wheeler, D, 2008; Rifkin, W., Longnecker, N., Leach, J., Davis, L., & Ortia, L, 2009). This surmises long range easygoing correspondence rehearses have the likelihood of improving learner contact and is utilized to update their cooperation in class, especially where contemplating learners are consolidated. Understudies can work in electronic gathering learning, with less or no uneasiness of planning to raise issues before accomplices at school (Wheeler, S., Yeomans, P., & Wheeler, D, 2008).

2. Literature Review

Earlier reviews, for instance, (Kennedy, G., Dalgarno, B., Bennet, S., Gray, K., Waycott, J., Judd, T., et al., 2009), examined the general accommodation of Social frameworks organization site among understudies in various Colleges and Universities. Basically (Hemmi, A., Bayne, S., & Land, R, 2009; Jones, M. C., & Twidale, M. B, 2005), examined the use of long range relational correspondence and keep up that, the designation of social advances is not a straightforward and clear process. At more hoisted measure of preparing all the more baffling academic assignments are dealt with and the new time of understudies apparently comprehends that Social frameworks organization site and social advances are convincing to learning.

Different earlier reviews have demonstrated verification that attempts are required with a particular ultimate objective to start using Social Networking site inside demand to affect educational activities. In any case, the whole strategy of accepting a particular Social Networking site has not gotten tasteful thought from authorities (Hamid, S., Waycott, J., Chang, S. & Kurnia, S, 2011). Researchers have battled that in showing up and taking in the blend of media to engage the procedure is generally affected particularly in relationship with enhancing last postponed results of researchers (McLoughlin, C., & Lee, J. W. L, 2008; Tay, E., & Allen, M, 2012). As per (Tay, E., & Allen, M, 2012), understudies should be given vigilant examinations to check their

use of the instruments they feel calm and familiar with which they feel are utilitarian in fulfilling scholarly attempts. Regarding, the social affordances of using long range social correspondence may not be given in a solitary specific social building however rather inside the mix of two or three social progressions.

Past creating saw the inconveniences that are joined with utilizing Social Networking site as a bit of higher bearing. The survey included 100 people for the reviews from Punjab University and UET, Lahore each. The audit found that, there are 4 significant inconveniences of long range social correspondence and its relationship with modifying, for example, thinking about advancement and copyright issues slant data ask. Teachers every so often are not jump forward and couldn't see how to mastermind and abuse social programming in their classes. The divulgences of the survey affirmed the before issues sketched out by (Kennedy,Judd, Churchward, Gray, & Krause, 2008). (Kennedy, Judd, Churchward, Gray, & Krause, 2008), as exhibited by their cutting edge inspect in three Australian Universities. As shown by (Kennedy, Judd, Churchward, Gray, & Krause, 2008), demonstrated six issues fusing instructional technique with respect to progression mix. Despite the advantages and difficulties saw, the survey also uncovered that teachers that don't have a place with the new time are suspicious to easygoing affiliation coordination in class. Educators are impacted to be careful in their circulation and utilization of long range easygoing correspondence as to concentrate on the varying learners' learning incline. Also, the researchers ought to pick we have the progression that meets their calling. The class encounter can't be satisfied their seeing, however in like way they ought to moreover use the seeing inside basic vicinity of working. The likelihood of taking a gander at understanding and satisfying changing through the accommodating correspondence like Facebook, Talking, E-mail and Website or any sorts of learning stakes that let the understudies in thankfulness and experience analyzing between your learners, coach, specialists, experts or even the business proprietor can help the analysts in getting the lesson learned towards the relationship in unmistakable closeness of working. The centrality of individuals all reasons pointed out, the master has motivation to make a discovered skeleton of Social systems administration to help Collaborative Learning (SSCL) for updating understanding change (Yampinij et al., 2012).

3. Social Networking Site for Academic Purpose

Using Social frameworks organization site by University students is certainly an entrancing task of examination for educationists and social investigators. Hamid, S. Chang, S. & Kurnia, S. 2009), Maintain that in the accessible composed work there are helpful plans and styles of utilizing it at school level. It outlines the presentation of substance and concentrates on the most capable strategy to give, work together, and collaborate and systematize by its use. There have every one of the reserves of being particular top motivations to benefactor using Social structures association site as a touch of more basic run the show. Its use was insisted by extra setup. Its all right with invigorate consider experiences of learners by acquisition of e-help benefits for their

breathing space (Dabner, N, 2011). It thinks about engage correspondence among and between students in virtual urban districts. Among others, the Facebook shows up being more than likely the most respected was proposed as a procedure for correspondence for landing at learners (Mack, D., Behler, A., Roberts, B., & Rimland. E, 2007).

Web locales focus seriously on building online metropolitan domains beyond any doubt to close by fundamental side interests or activities. Accordingly oblige them contraptions that help them to move this. Inside the bit of total taking in, the web ranges managed the immense issue lifted by educators inside the late period. For instance, lacks in philanthropic perspective and saw to it showing needs soul. Regardless, Websites have bolstered to loosen up individuals' issues, with the help of regular part by getting an individual, making the excitement inside the human consider the scholastic method something key. That comfortable with a develop with pull in individuals to bunch masterminded learning and different specialists inside the parts of humanistic systems undertaking studies to take a gander at this sensation and to clarify the honest to goodness explanation behind the premium educated about web goals for event (Ractham, P.; Firpo, D, 2011; Hao Jiang; MingXi Tang, 2010). What's more, teachers have definite that utilizing on the web improvements can support online talk among learners outside the classes, past the customary class setting (Gray, K., Chang, S., & Kennedy, G, 2010). Inside the states of web objectives or web journals, when understudies upgrade their client profiles and re-try their novel pages, they could give expansive particulars about themselves (e.g., full title, date of origination, area, informative establishment, and relaxation activities).The scholastics that are utilizing such advances inside their class will have an approach to manage uncover liberally all the more about the understudies they arrange essentially by overview the learners' profiles (Griffith, S., & Liyanage, L, 2008).

3.1. Effects of Social Networking Site on The Research Activity Of Students of University

The Social Networking site charms students and ought to be audited as business visionaries of appreciation. The medium of web is publicizing with extension in its activities. The watchful character of online conditions has connected with individual to individual correspondence. Catching through individual to individual correspondence begun just like a forte development, however time it's a wonder. The areas are utilized from different viewpoints like making metropolitan ranges, talking, and blogging and so on. Additionally contrasting foundations even these days are making get-togethers on two or three Websites (Saba Mehmood, 2013).

The improved utilization of Websites has changed into a general sensation for quite a while. What began basically like a side energy for a couple machine showed people has changed over to a social standard and closeness style for individuals from around the world (Nicole Ellison, 2007). Youngsters and teenagers have especially watched these web destinations to have the capacity to contact their amigos, offer information, go over their personas, and highlight their social lives (Nicole Ellison, 2007).

While using the work of movement reliable to get together with others near to the acknowledgment on the web, Internet objectives are at this moment being an improvement that is finished fundamentally on the web, with Websites (Vaughn, Coyle, 2008).

As appeared by (Khan U 2009), Facebook clients once in a while time experience poor execution scholastically. Fundamentally, (Englander, Terregrossa and Wang, 2010), put that Social systems association site is unfairly connected with adroit execution of learner and is a ton a more vital number of eminent than its focal core interests. Web inclination along these lines gave move in web use inside the latest couple of decades (Nalwa K, Anand AP, 2003). Suggested that penniless clients lean toward utilizing web setting back their particular and ace duties which at long last prompts poor scholastic execution.

As demonstrated by (Karpinski A, 2009), pointed out that Facebook customers gave lesser time to their reviews in relationship with nonusers did and along these lines had chopped down GPAs. (Karpinski, A, & Duberstein, 2009), Also said that among various novel redirections of every last time, Facebook remains an essential diversion of current time. As demonstrated by (Kubey, Lavin, and Barrows, 2001), incapacitating of informative execution and web dependence are connected by utilizing synchronous correspondence meanders including web regions and trades. There are points of interest and risks related to using any nice get-together. There have been reports as to its effect on understudies' academic execution. A few experts gotten some information about the completed consequence of accommodating correspondence settlement among University learners' and with their insightful execution.

They found a poor effect and effect when the media is abuse in such a course, to the point that don't informatively upgrade learning or its procedure (Wang, Chen & Liang, 2011; Stollak, Vandenberg, Burklund, & Weiss, 2011; Rouis, Limayem, & Salehi-Sangari, 2011; Canales, Wilbanks & Yeoman, 2009). Other specialists surveyed this same issue however discovered either no critical association between utilizing individual to individual correspondence and understudy clever execution (Ahmed & Qazi , 2011; Hargittai, & Hsieh, 2010), or truly a part in students' scholastic execution (Pasek & Hargittai, 2009).

4. Methodology

4.1. Research Design & Sampling

This study used the quantitative approach to manage find the acknowledgment and assessments of the web based systems administration sorting out, among the understudies of Punjab University UET, Lahore. The information for this review was accumulated by method for a survey questionnaire on 100 M.Phil and Ph.D researchers in the UET, Lahore and 100 surveys in Punjab University Lahore in the midst of the present scholastic session. The irregular examining method was utilized for the accumulation of information. The age-extent of the respondents was between 18 to >50. The understudies were advised in the study to offer information about their encounters

and effect of utilizing Social networking site on research action through collaborative learning.

4.2. Respondents

In this exploration 100 arrangements of questionnaires were haphazardly dispersed to M.Phil/MS and Ph.D. understudies of the University of the Punjab and 100 surveys in UET, LAHORE. SPSS programming (Version-16) application was utilized to investigate the information. The instrument utilized for this review was composed, in view of the targets of the utility and impacts of Social networking sites (SNS) on the exploration movement of the understudies of Punjab University (PU) and UET, Lahore. That was worthy and the instrument had met the dependability prerequisite for the review.

4.3. Data Collection Procedure

The Five-point Likert Scale was utilized as a part of this review. The review was calibrated with reference to a pilot contemplate done with understudies, and tried before-hand, analyzes the understudies' sentiments about the utilization of Social networking site on research execution. A survey containing 35 things was laid out. Each part was given a review and a short establishment to the review. The things were balanced from set up survey (Dr. Thiyam Satyabati Devi & Ms. Sipiwe Tevera University of Swaziland, 2014).

4.4. Conceptual framework

This review explanation behind a concise discourse on the substance in the recommended system for the Impact of SNS use on research yield of PU and UET, Lahore students. Regardless, in any case, this examination finds that Social systems administration site mix identifies with the understudies' exploration execution, the elements seen to be used of Social systems administration site , in this audit are: Similarly, an applied structure that perceives instruments by which using Social systems administration site impacts analyze look into exercises of understudies of college, through different uses and reasons are given (see Fig. 3.1).It is prescribed that understudy mind from the relationship easily of use that get from utilizing of Social networking site propel dynamic community oriented learning and, which at long last achieves updated utility of research understudies of University. Association is made like a fundamental edge in the planning strategy. It urges understudies to have a remarkable time playing the class dynamic synergistic learning (So, & Brush, 2008). The nearness of these parts is instrumental in improving collective learning and students' scholastic performance.

Following Hypothesis is based on Conceptual Framework:

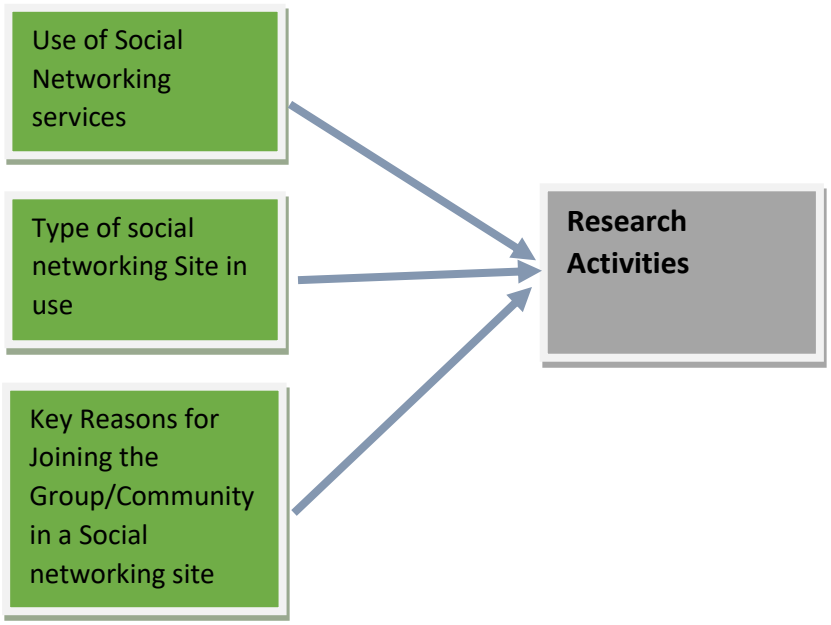

Figure 1 Conceptual Framework

H1: Use of social networking services is positively associated with the utility of research students of university

H2: Types of social networking site are positively associated with the effectiveness of research students of university

H3: Key Reasons for Joining the Group/Community in a Social networking site is positively associated with the utility of research activity students of university

5. Results

To analyze the data for this study, the Multiple Linear regression models were utilized as statistical tools. This model was used to analyze impacts of three independent variables towards the dependent variable. The examination with Multiple Linear regression helps in seeing the amount of the change in the Criterion variable is clarified by an arrangement of indicators (independent variables). The model is more fitting to be utilized since it can also explain the correlation between the dependent and independent variables in a bit better way. The accompanying outcomes were found from the information which exhibited comes about cleared up underneath. The Analysis of

things helps us evaluate the connection of related review things with just a couple of measurements. Most basic is Cronbach's alpha, a singular number that tells you how well a course of action of things measures a single trademark. This estimation is a general thing relationship where the qualities extend in the vicinity of 0 and 1. Values over 0.7 are every now and again thought to be agreeable.

To perceive the hazardous things, take a gander at the Omitted Item Statistics area of the yield. This range let us know how removing any one thing from the investigation upgrades or decreases Cronbach's alpha. This information grants us to tweak our overview, keeping the colossal request while supplanting the awful.

Table 1: Reliability Statistics

Cronbach's Alpha	Number of Items
0.873	32

The value of Cranach's Alpha in this study is 0.873 which is acceptable and shows the reliability of survey.

Table 2: Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
	Key Reasons , type of Social networking sites, Use Social Networking services[a]	.	Enter

a. All requested variables entered.

R-square shows there is 53% change in dependent variable due to variation in independent variables whereas the remaining 73.0% change in D.V are due to other variables, in the model. R shows that variables have strong correlation with each other as its value is above 50%. Which is a good indicator by now, but research activity of students have a great impact due to predictor in both situations.

Table 3: ANOVA[b]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	48.594	3	16.198	59.266	.000[a]
Residual	42.636	156	.273		
Total	91.230	159			

a. Predictors: (Constant), Key Reasons , type of Social networking sites, Use Social Networking services

b. Dependent Variable: Research Activities

Here, in above table, F-statistic values shows that all independent variables jointly determine the variation in D.V. here F-value is significant as its P-value as given in the table.

Table 4: Co-efficient[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.054	.234		.231	.818
Use of Social Networking services	.197	.089	.168	2.210	.029
type of Social networking sites	.120	.052	.139	2.315	.022
Key Reasons	.682	.094	.542	7.289	.000

a. Dependent Variable: Research Activities

Use of social networking sites attribute has significant positive impact on (RA). We can say that one unit change in Use of social networking sites bring change of 0.197 unit s in D.V. type of Social networking sites have positive impact on D.V but significant as t-value is greater than 1.96, P-value is greater 0.02<0.05 and beta standardized coefficient value for key reason attribute is 0.682, which is showing a positive relation between the variables.

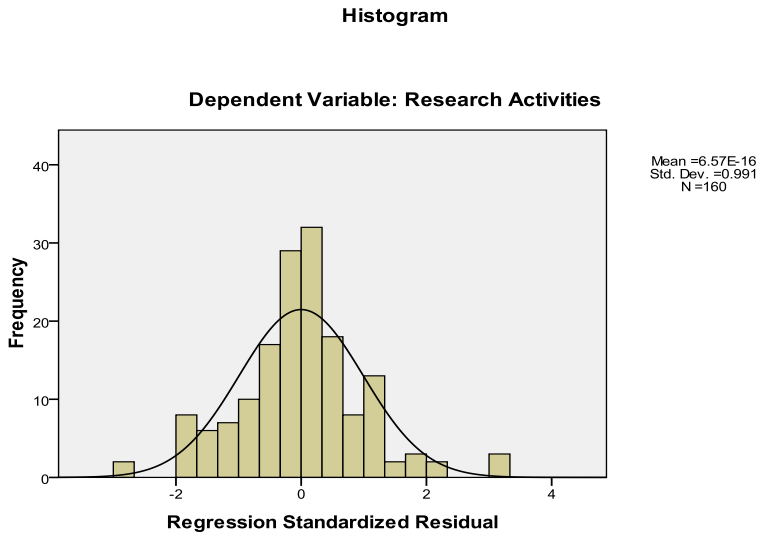

Figure 4.1 Regression Standardized Residual

6. Discussion & Conclusion

The students keep up no less than one record with the social networking sites,, Facebook and Whatsapp is the most mainstream person to person communication site utilized by the students as a part of Punjab University and UET, LAHORE. This backings the conclusion of Christofideset.al (2009) that Facebook is a prominent long range informal social networking site. This study demonstrates that the students know and use no less than one informal communication site. Yet at the same time, we ought to urge to keep up whatever number records as could be expected under the circumstances, as this will improve the rate of networking among different gatherings and expansion the rate of data stream for quality research. The study likewise demonstrates that the motivation behind joining a social networking site shifts among the students however the design is to stay a la mode with the group furthermore, to impart information to others. Every one of the students of PU and UET, Lahore, likewise recognized that social networking has been of benefit to them in one way or the other. Presentation to late learning, abilities and innovation in their general vicinity of specialization started things out.

6.1. Limitations & Contributions and Future Work

This paper helps rehearse by giving experimental proof and explained how social advances can be appropriated effectively for bridling showing and adapting in the advanced education setting and highlighting the profits and difficulties confronted by instructors in their utilization of SNS for showing and learning. We have exhibited that the choice of social innovations and the allocation procedure are all that much focused around the inclination of the speakers. Consequently, the broad assortment of social mechanical assemblies that are open and moreover the flexibility offered by the gadgets to help diverse utilizations and applications may oblige imaginativeness and improvement from the teachers to appropriate the favored developments to sponsorship their specific needs.

There are a few ramifications of this study discoveries for different instructors and possibly, instructive fashioners in arranging, outlining and utilizing social innovations for their reasons. There are a few ramifications of this study discoveries for different instructors and conceivably, instructive planners in arranging, outlining and utilizing social advances for their reasons. Specifically, speakers could consider taking up the methodical procedure of utilizing SNS by fastidiously arranging and directing for

(a) Pre-implementation investigation of students inclination and learning styles.
(b) Leading a formal assessment of social innovations, for example, by means of SWOT examination.
(c) Planning how SNS could be utilized for classroom environment, and
(d) Evaluating the viability of SNS utilization to guarantee the showing and learning practice attains the proposed learning goals.

For instructive originators, the lessons learnt from the profits and difficulties of teachers in utilizing SNS exercises to improve showing and learning ought to turn into the key pointers for them in upgrading and enhancing SNS for instructive purposes. While various social advances were not planned for educational purposes, this paper indicates they can be appropriated for appearing and learning with support of informative originators. To address the challenges, for instance, the low level of nature in using certain social innovations for appearing and learning, informational makers could enrapture instructors and their understudies in planning sessions to accommodate them the opportunity to adapt themselves with the structure plan, idiosyncrasies and comfort of the social advances. The limitation of this paper is credited to its kept association of PAKISTANI universities and the foreordained number of cases which may impact its genuine nature in various associations. Along these lines, more occurrences of appropriating social advancements for appearing and adjusting in changed colleges and in various countries would be useful to supplement the disclosures of this review. In particular, cases that show both productive and unsuccessful jobs of social developments for appearing and learning would be noteworthy to extend our seeing about the best possible use of social advances in cutting edge instruction. The Future works could be prepared towards making an "instrument compartment" that could encourage interested teachers to easily and systematically use social advancements for their appearing and learning.

References:

Brown, S. (2010). From VLEs to learning webs: the implications of Web 2.0 for learning and teaching. Interactive Learning Environments, 18(1), 1-10.

Schroeder, A., Minocha, S., & Schneider, C. (2010). Social Software in Higher Education:

The Diversity of Applications and Their Contributions to Students' Learning Experiences. Communications of the Association for Information Systems, 26, Article 25(1), 547-564.

Ferdig, R. E. (2007). Editorial: Examining Social Software in Teacher Education. Journal of Technology and Teacher Education, 15(1), 5.

McLoughlin, C., & Lee, J. W. L. (2008). The Three P's of Pedagogy for the Networked Society: Personalization, Participation, and Productivity. International Journal of Teaching and Learning in Higher Education 20(1), 10-27.

Wheeler, S., Yeomans, P., & Wheeler, D. (2008). The good, the bad and the wiki: Evaluating student-generated content for collaborative learning. British Journal of Educational Technology, 39(6), 987–995.

Rifkin, W., Longnecker, N., Leach, J., Davis, L., & Ortia, L. (2009). Motivate students by having them publish in new media: An invitation to science lecturers to share and test. Paper presented at the Motivating Science Undergraduates: Ideas and Interventions, UniServe Science Proceedings.

Kennedy, G., Dalgarno, B., Bennet, S., Gray, K., Waycott, J., Judd, T., et al. (2009). Educating the Net Generation: A Handbook of Findings for Practice and Policy. Carlifornia, USA: Creative Commons.

Hemmi, A., Bayne, S., & Land, R. (2009). The Appropriation and Repurposing of Social Technologies in Higher Education. Journal of Assisted Learning, 25(Special Issue), 19-30.

Jones, M. C., & Twidale, M. B. (2005). What's in a name? Exploring the connections between abstraction and appropriation. International reports on socio-informatics 2(2), 43-47.

Hamid, S., Waycott, J., Chang, S. & Kurnia, S. (2011). Appropriating Online Social Networking (OSN) activities for higher education: Two Malaysian cases. In G. Williams, P. Statham, N. Brown & B. Cleland (Eds.), Changing Demands, Changing Directions. Proceedings ascilite Hobart 2011. (pp.526-538).

McLoughlin, C., & Lee, J. W. L. (2008). The Three P's of Pedagogy for the Networked Society: Personalization, Participation, and Productivity. International Journal of Teaching and Learning in Higher Education 20(1), 10-27.

Tay, E., & Allen, M. (forthcoming 2012). Designing Social networking site into university learning: technology of collaboration or collaboration for technology? Educational Media International., http://www.netcrit.net.

Jones, N., Blackey, H., Fitzgibbon, K., & Chew, E. (2010). Get out of My Space! Computers & Education, 54(2010), 776-782.

Kennedy,Judd, Churchward, Gray, & Krause (2008). First Year Students' Experiences With Technology: Are They Really Digital Natives? Australasian Journal of Educational Technology (AJET 24), 24(1), 108-122.

Yampinij et al., (2012). a conceptual framework of Social networking to aid Collaborative Learning (SSCL) for improving understanding construction. Computer in human

Hamid, S. Chang, S. & Kurnia, S. (2009). Identifying the use of online social networking in higher education. Same places, different spaces. Proceedings Ascilite Auckland 2009. Retrieved 18

Dabner, N. (2011). Design to support distance teacher education communities: A case study of a student– student ementoring initiative. Proceedings of Society for Information Technology and Teacher Education International Conference 2011. Nashville, TN: AACE 1-880094-84-3.

Mack, D. Behler, A., Roberts, B., & Rimland. E. (2007). Reaching students with Facebook: Data and best practices. Electronic Journal of Academic and Special Librarianship, 2007, 8(2).

Ractham, P. Firpo, D. (2011), "Using Social Networking Technology to Enhance Learning in Higher Education: A Case Study Using Facebook," System Sciences (HICSS), 2011 44th Hawaii International Conference on, vol., no.pp.1-10, 4-7.

Hao Jiang; MingXi Tang. (2010). "Web-Based Learning Platforms Integrating Social Networking for Design Education at High Schools in China," Computational Intelligence and Software Engineering (CiSE), International Conference, vol., no., pp.1-3, 10-12.

Gray, K., Chang, S., & Kennedy, G. (2010). Use of social web technologies by international and domestic undergraduate students: implications for internationalizing learning and teaching in Australian universities. Technology Pedagogy and Education, 19(1), 31-46.

Griffith, S., & Liyanage, L. (2008). An Introduction to the Potential of Social Networking Sites in education. Paper presented at the Proceedings of the Second Emerging Technologies Conference.

Oradini, F., & Saunders, G. (2008). The Use of Social Networking By Students and Staff In Higher Education. Paper presented at the iLearning Forum, 2008, Paris.

Dale, C., & Pymm, J. (2009). Podagogy – The iPod as a Learning Technology. Active Learning in Higher Education, 10(1), 84-96.

Andreas M. Kaplan, & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social networking site. Business Horizons, 53, 59-68.

Kane, G. C., & Fichman, R. G. (2009). The Shoemaker's Children: Using Wikis for Information Systems Teaching, Research and Publication. MIS Quarterly, 33(1), 1-17.

Lockyer, L., & Patterson, J. (2008). Integrating Social Networking Technologies In Education: A Case Study Of A Formal Learning Environment. Paper presented at the Eighth IEEE International Conference on Advanced Learning Technologies.

Silius, Miilumaki, Huhtamaki, Tebest, Merilainen, and Pohjolainen, (2010).Students' motivations for Social networking site enhanced studying and learning. Knowledge Management & E-Learning: An International Journal, vol. 2, pp. 51-67.

Farwell and Waters, (2010).Exploring the use of social bookmarking technology in education: an analysis of students' experiences using a course-specific Delicious.com account. Journal of Online Learning and Teaching, vol. 6, pp. 398- 408.

Rosen and Nelson, (2008).Web 2.0: a new generation of learners and education. Computers in the Schools, vol. 25, pp. 211-225, 2008.

Hazari, North, and Moreland,(2009).Investigating pedagogical value of wiki technology. Journal of Information Systems Education, vol. 20, pp. 187-198.

Saba Mehmood (2013).The Effects of Social Networking Sites on the Academic Performance of Students in College of Applied Sciences, Nizwa, Oman. International Journal of Arts and Commerce Vol. 2 No. 1.

Nicole Ellison, (2007). The benefits of Face book "Fiends;" Social Capital and College Students' Use of Online Social Network Sites. Journal of Computer-Mediated Communication.

Vaughn, Coyle (2008). Social networking: Communication revolution or evolution? Bell Labs Journal, 13-17.

Khan U (2009). Facebook students underachieve in exams. Daily Telegraph. Retrieved on July, 2013, from http://www.telegraph.co.uk/education/educationnews/5145243/Facebook-students-underachieve-in-exams.html.

Englander, Terregrossa and Wang (2010). Educational Review, journal of education. 62(1): 85 -96.

Nalwa K, Anand AP (2003). Cyber Psychology Behavior. doi:10.1089/109493103322725441. 6(6): 653-656.

Karpinski A (2009). A description of Facebook use and academic performance among undergraduate and graduate students. Annual Meeting of the American Educational Research Association, San Diego, Calif.

Karpinski, A, & Duberstein. (2009). A Description of Facebook Use and Academic Performance among Undergraduate and Graduate Students. San Diego, California: American Educational Research Association.

Kubey, Lavin, and Barrows (2001). Internet use and collegiate academic performance decrements: Early findings. J. Commun., 51(2): 366-382.

Wang, Chen & Liang (2011). The Effects of Social networking site on College Students. The Alan Shawn Feinstein Graduate School. Providence: Johnson & Wales University.

Stollak, Vandenberg, Burklund, & Weiss (2011). Getting Social: The Impact of Social Networking Usage on grades Among College Students. ASBBS, 18(1), 859-865.

Rouis, Limayem, & Salehi-Sangari (2011). Impact of Facebook Usage on Students' Academic Achievement: Role of Self-Regulation and Trust. Journal of Research in Educational Psychology, 9(3), 961-994.

Canales, Wilbanks & Yeoman (2009). Facebook Usage in Relation to Personality and Academic Performance. Modern Psychological Studies, Spring.

Ahmed & Qazi (2011). A look out for academic impacts of social networking sites (SNSs): A student based perspective. African Journal of Business Management, 5(12), 5022-5031.

Hargittai, & Hsieh (2010). Predictors and Consequences of Differentiated Practices on Soical Network Sites. Information, Communication & Society, 13(4), 515-536.

Pasek & Hargittai (2009, May). Facebook and academic performance: Reconciling a media sensation with data. First Monday, 14(5-4).

Dr. ThiyamSatyabati Devi&Ms. SipiweTevera University of Swaziland (2014, Jan) (2003). Use of social networking site in the University of Swaziland by the Health Science Student: A case study. Volume 1, Number 1 January (2014), pp. 47-55

McMillan & Hwang (2002).Measures of perceived interactivity: an exploration of the role of direction and communication, user control and time in shaping perceptions of interactivity. Journal of Advertising, 31(3), 29–42.

Gallini, & Moely (2003).Service-learning and engagement, academic challenge and retention. Michigan Journal of Community Service Learning, 5–14, fall.

So, & Brush (2008).Students perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: relationships and critical factors. Computers & Education, 51(1), 318–336.

Chang Zhu, (2012).Student Satisfaction, Performance, and Knowledge Construction in Online Collaborative Learning.

Banks. (2006).Reflections on the use of ARS with small groups. In D. A. Banks (Ed.), Audience response systems in higher education (pp. 373–386). Hershey, PA: Information Science Publishing.

Amy Muise, M.Sc., Emily Christofides, M.Sc., and Serge Desmarais (2009). More Information than You Ever Wanted: Does Facebook Bring Out the Green-Eyed Monster of Jealousy?

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Profitability Paradox: Evidence from Commercial Banks in Pakistan

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Abstract

It is generally believed that information technology (IT) impacts the organizational profitability positively, however, empirical evidence has remained inconclusive. This was first highlighted by Solow (1987), labelled as Solow's paradox, and later labelled as profitability paradox by Beccalli (2007). The persistence of inconclusive empirical literature provides the impetus of this research to investigate the impact of different components of IT on banks profitability in Pakistan from 2009-2016 for a sample of 25 Pakistani commercial banks. Return on assets (ROA) and return on equity (ROE) have been used as indicators of bank profitability, whereas two different components of IT, number of ATMs and investment in banks software have been employed as proxies of IT. Empirical results reveal that investment in bank software appears to have a positive influence on bank profitability, while the acquisition of ATMs seems to reduce the profitability of banks. It can be concluded that IT paradox is not necessarily a paradox of IT in totality and may be termed as IT component paradox.

Keywords: *Information technology (IT), Return on assets (ROA), Return on equity (ROE), Bank Software, and Difference generalized method of moments.*

1. Introduction

Over the last five decades, economies world over witnessed revolutionary development that could be credited to various macro determinants such as innovation, globalization, competition and deregulation, and possibly the most distinct force catalyzing these development is the Information Technology (Dos Santos & Sussman, 2000). In today's dynamic business environment, the role of IT in strengthening firm's competitiveness has increased manifold (Lee, Choi, Lee, Min & Lee 2016). Today, organizations have widely engaged IT in a number of ways according to their business requirements. For instance, enterprise resource planning systems, are being purchased and implemented by manufacturing and banking firms to streamline business transactions, operations and resource management (Shaoa & Lin, 2002).

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In the modern era, IT is at the core of banking industry operations and product development, whereas banking industry itself is the backbone of every economy (Abubakar & Tasmin, 2012). Commercial banks, by the very nature of their business, are highly information intensive businesses. The business carried out by them is greatly dependent on information pertaining to the management of banks financial resources, deposits, advances, customer databases as well as regulatory directives from the central bank and other regulatory and legal authorities that define the rules and operations of the banking business. Use of IT has been considered as one of main contributions towards productivity of banks (Swierczek & Shrestha, 2003). Both the rising costs of IT and the importance of benefits offered by it are two differing aspects of IT and have over the time given rise to an interesting and intriguing paradox. Organizations often do not succeed in taking benefit from opportunities that these investments could potentially engender. Banks essentially passed forward the benefits, to customers, from the revolutionary technological advance of automated teller machine in the decade of eighties mainly due to increasingly competitive environment existing in the industry (Berger, 2003).

Interestingly, the phenomena of ‘‘IT paradox’’ was first underscored by a Nobel Laureate Robert Solow in 1987, who in a famous quip laconically portrayed the IT paradox: ‘‘you can see the computer age everywhere, but not in the productivity statistics’’ and since then it has remained the center of research work carried out on the subject. Later, Beccalli (2007) examined the link of IT to profitability. His empirical estimation revealed that investment in IT enhanced the bank profitability. He indicated the existence of a paradoxical situation and coined the term of “profitability paradox”. There is much doubt and opacity that exists about the effects of IT on organizational financials (Brynjolfsson, 1993). This paradox phenomenon has been claimed, unclaimed and reclaimed in literature over time. Dos Santos and Sussman (2000) further state that this paradoxical situation has existed for all main IT innovations ever since the introduction of computers: from database management systems, simple transaction processing systems and once systems, and the present wave of applications triggered and generated by the speedy developments of world wide web i.e. Internets. Normally, it is believed that firms making substantial IT related investments should be remunerated with greater financial returns (Stratopoulos and Dehning, 2000), but it must be startling to observe that the available evidence related to subject matter, conversely, reveals some differences in concluding the influence of IT towards profitability of banks (Ho and Mallick, 2006). The persistence of inconclusive empirical literature about impact of IT on banking sector’s profitability and the surprising presence of profitability paradox indicate existence of an unsolved phenomena. Therefore, this research attempts to address this shortfall and investigates the impact of different components of IT on banks profitability in Pakistan.

The remaining of the paper is designed as follows. Section 2 outlines the problem statement and objectives. Section 3 highlights the overview of Pakistan’s Banking Sector from IT Perspective. Section 4 offers literature review. Section 5 describes the

hypothesis of the study and sample selection. Section 6 deals with Empirical Strategy, Results and Discussion. The final section offers conclusion and future research.

2. Literature Review and Hypothesis

The business value of IT has been debated for a number of years and has been the focal point of numerous editorials, news articles, research projects and books. Most of the research work studying impact of IT on business performance since 1980's hops around the Solow's Paradox that raised suspicions about the impact of IT on productivity in US economy (Solow, 1987).

Kauffman and Banker (1991) found that teller labor reduced due to presence of ATMs and the bank's ATM network was found to be a vital determinant of the relative share of the retail deposit market a bank may capture. Hitt and Brynjolfsson (1996) studied business value of IT from three different perspectives productivity, profitability and consumer surplus. Their findings, indicate that IT has increased productivity and has created considerable value for consumers. Similarly, Parsad and Harker (1997) reported that IT investment has zero or insignificant effect on bank profitability. They further argue that additional investment of capital in IT may have no actual paybacks and, profits and may be more of a strategic necessity to stay competitive along with other banks in the industry. Thus, according to them in the competitive environment of US retail banking industry, IT is not expected to make significant impacts on the firm's profitability.

Berger (2003) stated that the effect of internet banking is not much clear because of limited experience with the technology. Swierczek and Shrestha (2003) reveal that Asia-Pacific banks have employed IT in a more productive manner than Japanese banks. They further state that IT products impacts productivity in a positive manner and use of IT rises outputs and reduces costs. Shu and Strassmann (2005) examined the role of IT in providing banks with profit. Their dataset comprises a panel of 12 US banks from 1989-1997. They used IT budget and revenue as proxies for IT and bank profitability respectively. Upon applying panel data random effect model results show that there is positive relation between investment in IT and bank profitability. They opine that due information intensive nature of banking industry benefits of substituting labor with IT are not surprising.

As much of the work on the subject has been focused on US banking sector, Beccalli (2007) investigated whether or not investment in IT impacted bank performance in five EU countries France, Germany, Italy, Spain and UK. The findings revealed weak relationship between investments in IT and bank profitability. Hence, indicating the existence of a profitability paradox in European banking industry. Beccalli argues that role of IT for banks may not be profit oriented and rather a strategic necessity. However, he points out that impact of different forms of IT on bank profitability is heterogeneous.

Ho and Mallick (2010) examined the effects of IT in the US banking industry. The evidence confirms the presence of IT profitability paradox in the US banking industry and suggests that IT may help banks in cost savings, but these cost savings are not

sufficient to offset the loss due to competition, resulting in an overall negative effect of IT on industry's revenues. Mehmood et al. (2014) established the absence of Solow's paradox in 47 of the world's leading capital markets. They reported that Stock markets are positively affected by the use of advanced technology and communication means. However, sometimes they can be negatively affected due to high operating and infrastructure costs, lack of skilled staff to handle the latest technology, operating failures and defected IT products containing computer viruses.

Though there have been studies that reported a positive relationship between IT and business performance, which is contrary to Solow's paradox, Acemoglu, Autor, Dorn, Hanson, and Price (2014) claim the return of Solow's paradox, they have documented growth pattern of different manufacturing industries and have challenged the technological-discontinuity view, which says that sophisticated technological transformations due to IT have positively impacted the businesses. They argue that IT-intensive industries in USA have not even registered a fast growth as compared to non-IT-intensive industries and there is a very minute productivity growth in such industries. Mustafa and Mehmood (2015) reported that technical efficiency and total factor productivity of banks in Pakistan have been significantly increased in post-digital reform era. Lee, et al. (2016) suggested that seeing constant upsurges in IT investment, the IT itself cannot create value rather what matters is the way IT is employed to generate business outcomes. Campanella, Della Peruta, and Del Giudice (2017) in a study of 3190 banks located in 17 countries report that the innovations relating to enterprise resource planning software systems increase the earning margin of banks. Vekya (2017) in a study of 43 Kenyan banks found out that there is a positive significant association between ATM transactions and bank profitability whereas mobile transactions do not influence performance of commercial banks. Tahir, et al. (2018) recommends that banks in Pakistan must make more investments in ATMs and POS channels as they result in reduction of operating expenses for the banks. Thakur (2018) concludes that Indian banking industry has highly benefited from IT implementation. IT has provided Indian banks with advanced product development, better market infrastructure, execution of reliable techniques for risk control and has helped the financial intermediaries to tap new markets. Mahboub (2018) reported that the implementation banking technologies such as ATM, internet banking does not significantly affect the performance of the banks in Lebanon. The study argues that the costs of implementing these technologies by Lebanese banks exceed their benefits. Gupta, et al. (2018) examined the existence of profitability paradox in Indian Banking Sector using Stochastic Frontier Analysis. Empirical findings confirmed the presence of profitability paradox.

It has been much pondered over whether or not IT can provide improvements in profitability or business efficiency. This review shows that in spite of theoretical arguments and professional belief in favor of a positive relation between IT and superior financial performance there is no agreement on impact of IT on bottom line business profitability in empirical literature. Businesses continue to spend on IT, yet the evidence

has shown no conclusive answer to whether or not their profitability has gone up, therefore, more research is necessary to clarify the relationship between IT and profitability.

The study intends to test the following hypothesis:

H_0: Different components of IT do not significantly impact commercial banks, profitability in Pakistan.

H_A: Different components of IT significantly impact commercial banks, profitability in Pakistan.

3. Data and Estimation Methodology

We used the secondary data pertaining to variables employed in the study from annual reports of commercial banks. Dependent variable, profitability is measured by using return on assets (ROA) and return on equity (ROE). Independent variables include investment in bank software number of ATMs and size of banks. The sample of this study comprises 25 Pakistan based commercial banks[3] of which there are 3 public sector banks, 21 domestic private sector banks and 01 foreign bank. All commercial banks have been included in the sample pertaining to which annual data was available over the time span of 2009–2016, making a pooled total of 990 observations.

As in the panel of this research, there are 25 banks (N) and a time dimension of 08 years (T). Therefore, the number of banks (N) is greater than number of time periods (T). In such a case Pooled OLS, IV regression are widely believed to be inconsistent[4] (Roodman, 2009) therefore, Generalized method of moments becomes a preferred choice as this technique is specially developed for situations wherein "T" is lesser as compared to "N" to address for dynamic panel bias (e.g. Bond, 2002; Roodman, 2006; Roodman, 2007 and Sarafidis et al., 2009). GMM estimators are extended forms of a lot of usual estimation techniques such as instrumental variable regression and ordinary least square, there are clear benefits of preferring GMM over IV; in case there is heteroskedasticity in data, the GMM is a better and more efficient option than a usual IV estimator. Also, in case of absence of heteroskedasticity, the GMM estimation

[3] *Following banks constitute the panel for this study; First Women Bank Limited, National Bank of Pakistan, Bank of Khyber, Al-Baraka Bank Limited, Allied Bank Limited, Askari Bank Limited, Bank Al Habib Limited, Bank Alfalah Limited, Bank Islami Pakistan Limited, Dubai Islamic Bank Pakistan Limited, Faysal Bank Limited, Habib Bank Limited, Habib Metropolitan Bank Limited, JS Bank Limited, MCB Bank Limited, Meezan Bank Limited, NIB Bank Limited, Samba Bank Limited, Silk Bank Limited, Soneri Bank Limited, Standard Chartered Bank Limited, Summit Bank Limited, United Bank Limited, Citi Bank and Burj Bank Limited.*

[4] *Due to the problems of endogeneity, autocorrelation unobserved heterogeneity and heteroscedasticity.*

technique is no worse asymptotically as compared to the IV estimator (Baum, Schaffer & Stillman, 2003).

Several authors (Bond, 2002; Roodman 2006; Roodman, 2007) state that SGMM could be a preferred option over DGMM if variables are "random walk" or close to be random-walk variables. Usually microeconomic or firm specific variables are usually close to stationary. Therefore, DGMM will be a preferred choice for the purpose of this research over SGMM which is more suitable for random walk variables (Efendic, Pugh & Adnett, 2009).

4. Empirical Models

Investigation of different empirical specifications in existing literature reveal that ROA and ROE have been widely employed as a measure of bank profitability (Rauf, Qiang & Sajid, 2014; Karimzadeh, Emadzadeh & Javad Shateri, 2014; Jesudasan, Pinto & Prabhu, 2013; Onay, Ozsoz & Helvacıoğlu, 2008; Hernando & Nieto; 2007; Beccalli, 2007; Mittal & Dhingra, 2007; Eyadat & Kozak, 2005; Stratopoulos & Dehning, 2000). Different proxies of IT have been used in literature to examine the impact of IT on profitability of banks in the form of index and in components, as in this research the impact is to be measured in components, Therefore, number of ATMs and investment in bank software have been employed as proxies of IT. Number of ATMs as a proxy of IT has been used in various studies (Karimzadeh et al., 2014; Jesudasan et al., 2013; Ou, Yen & Hung, 2009; Holden & El-Bannany, 2004; Alpar & Kim, 1990), investment in bank software has also been employed as a proxy of IT in literature by different researchers (Safari & Yu, 2014; Jesudasan et al., 2013; Jalal-Karim & Hamdan, 2010; Beccalli 2007). IT components are part of a multitude of factors that affect banks returns to control for other factors and for a more comprehensive and theoretically robust model to examine the relationship amongst IT and bank profitability bank size represented by total assets has been added as a control variable. Bank size has been used as a control variable in existing literature by several authors (Karimzadeh et al., 2014; Safari & Yu, 2014; Ou, Yen & Hung, 2009). Therefore, the following two models are estimated empirically to measure the impact of IT on commercial banks profitability;

$$ROA_{i,t} = \beta_0 + \beta_1 ROA_{i,t-1} + \beta_2 LNBS_{i,t} + \beta_3 LATM_{i,t} + \beta_4 LNTA_{i,t} + \mu_{i,t} \ldots\ldots\ldots \text{model 1}$$

$$ROE_{i,t} = \beta_0 + \beta_1 ROE_{i,t-1} + \beta_2 LNBS_{i,t} + \beta_3 LATM_{i,t} + \beta_4 LNTA_{i,t} + \mu_{i,t} \ldots\ldots\ldots\ldots \text{model 2}$$

Where,

$ROA_{i,t}$: Return on Asset
$ROE_{i,t}$: Return on Equity
$ROA_{i,t-1}$: lagged value of Return on Assets
$ROE_{i,t-1}$: lagged value of Return on Equity
$LNBS_{i,t}$: logged value of Bank Software investments
$LATM_{i,t}$: logged value of number of ATMs
$LNTA_{i,t}$: logged value of total assets

$\mu_{i,t}$ **:** error term
β : intercept
Subscript i: bank i and
Subscript t: time t

To correct for potential endogeneity bias, relevant lagged dependent variables have been added in both the models, whereas independent variables natural logarithm has been taken to correct for heteroscedasticity.

5. Results and Discussion

Table 1: Descriptive Statistics

	Mean	Minimum	Maximum	Standard Deviation
ROA	0.4489	-7.5127	5.6669	2.0097
ROE	1.4076	-268.7462	139.4631	36.7332
Investment in Bank Software	190708725	00	1496040000	292436848.4280
Number of ATMs	176.0051	03	1303	191.3090
Bank size	265338975885	2695837000	1612657805000	301676854242.5680

Source: Author's computation using Stata version 12.0

Table 1 indicates that averagely banks in our sample are getting 44 rupees on utilizing the assets of 100 rupees and 140 on equity which displays that banks are utilizing the funds of equity in a better way. Standard deviations of both variables show that ROE has more fluctuations as compared to ROA. Bank software is an intangible asset of the bank and is charged with amortization, additions and deletions every year and reported in financial statements. The Minimum value of bank software can be seen as zero which indicates a fully amortized net zero value of the asset and such observations are very few in whole range of values of this variable in the sample of this research. The maximum value for bank software goes to more than a billion and indicates its importance as one of the major capital expenses of the bank. Such range of minimum and maximum values of the bank software for the so mentioned reasons tantamount to a high mean and standard deviation of this variable. Variation in Number of ATMs and bank size is due to fact that the sample includes both large and small banks, large banks have large total assets and small banks report a smaller figure of total assets, Similarly, large banks have a greater geographical reach and thus have a large number of ATM's in order to serve their customers, whereas small banks due to their small geographical presence have a low number of ATMs in place.

Table 2: Correlation Analysis

ROA	Investment in Bank Software	No. of ATM	Total Assets	
ROA	1.0000			
Investment in Bank Software	0.1175*	1.0000		
No. of ATM	0.3433*	0.5268*	1.0000	
Total Assets	0.3594*	0.3859*	0.7942*	1.0000
Vif	1.39	3.20	2.72	
1/vif	0.71	0.31	0.36	

Source: Author's computation using Stata version 12.0

ROE	Investment in Bank Software	No. of ATM	Total Assets	
ROE	1.0000			
Investment in Bank Software	0.1072	1.0000		
No. of ATM	0.2397*	0.5268*	1.0000	
Total Assets	0.2250*	0.3859*	0.7942*	1.0000
Vif	1.39	3.20	2.72	
1/vif	0.71	0.31	0.36	

Source: Author's computation using Stata version 12.0

In correlation analysis, we can see that all independent variables are significant in their correlation analysis with dependent variable ROA, whereas with dependent variable ROE only investment in bank software is insignificant. All variables are within tolerable correlational limits which rule out the issue of multicollinearity. Values of vif for variables no. of Atm and total assets are moderately high. However, our applied technique of generalized method of moments is designed to correct for such issues.

Table 3: Results of DGMM Panel Regression Estimation

Regression Model	**1**	**2**
Dependent Variable	ROA	ROE
Independent Variables	Coefficients	Coefficients
$ROA_{i,t-1}$	0.3969^{***}	
	(2.56)	
$ROE_{i,t-1}$		0.2207^{***}
		(5.13)
$LNBS_{i,t}$	0.0044^{**}	0.0856
	(1.93)	(1.63)
$LATM_{i,t}$	-0.0078^{*}	-0.1273^{**}
	(-1.85)	(-2.18)
$LNTA_{i,t}$	0.0062^{*}	0.0967
	(1.74)	(1.29)
Arellano-Bond test for AR(2) in first differences[5]	Pr > z = 0.863	Pr > z = 0.262

[5] *H_0: There is no second-order serial correlation in residuals*

Wald chi2(4)=13.31	Prob > hi2=0.010	
Wald chi2(4)=55.13		Prob > chi2= 0.000
Hansen J-test of overidentifying restrictions[6]	Prob > chi2 = .294	Prob > chi2 = .360

Observations=142; Banks = 25; Instruments = 24

*** Significance at 1%, ** significance at 5% and * significance at 10% level of significance; *t- static are reported in parenthesis*
Source: Authors computation from STATA version 12.0 special edition

In order to investigate relationship between IT proxies and profitability, model 1 and 2 are estimated by using DGMM Panel Regression Estimator and their results are reported in Table 3. Lagged values of dependent variables ROA and ROE have also been added to the right-hand side of the respective models. The co-efficient of both the lagged dependent variables is less than 1 which implies that our applied technique is valid, Second the lagged values of both dependent variables are positively related to their previous values, revealing the dynamic behavior of both the dependent variables $ROA_{i,t}$ and $ROE_{i,t}$, hence give rise to dynamic panel models. In order to examine the validity of instruments and specification of models different diagnostic tests have been applied sand their results are also presented in Table 3. The absence of serial correlation of second-order in residuals is the requirement for using GMM estimator. Results of second-order serial correlation test indicate the absence of second order serial correlation in both models. It implies that models are correctly specified and are valid. Wald chi test for both models are significant, hence both applied models are a good fit. Hansen J-statistic, is used to test the validity of instruments and their correct specification (Baum, 2006; Efendic et al., 2009). In our estimation for both the models, the null hypothesis of Hansen test of over identifying restrictions has not been rejected at the conventional levels of significance; hence, indicating instruments used in both models are valid.

Difference GMM results show that number of ATMs, a main variable of interest is significant at 10% level of significance in model 1 and significant at 5% level of significance in model 2. Therefore, it is evident that the impact of number of commercial banks, ATMs on the dependent variables ROA and ROE is considerable. Negative coefficients of LATM in both models infers that with increasing number of ATMs commercial banks profitability declines. Hence the results confirm the existence of profitability paradox for this component of IT (Gupta et. al, 2018). It is well known that ATMs are largely available over geographical areas and due to competition banks charge negligible fees to customers on using an ATM. Therefore, benefits from ATM are competed away, and hence do not translate into profits for banks. ATM as a component of IT for banks can be another delivery channel and may be termed as a

[6] *H_0: Model specification is correct and all overidentifying restrictions (all overidentified instruments) are correct (exogenous)*

social good due to its large availability and low prices (Berger 2003; Martín-Oliver & Salas-Fumás, 2008). This implies to role of this IT component as a strategic requirement to stay competitive with other banks and not an IT surrogate that yields competitive advantage for banks (Beccalli, 2007). Additional investment in this component of IT may reap no actual benefits and profits for banks and may be a supplementary strategic necessity required for banks to remain competitive in the business, in fact, by not investing banks may experience decline in their market share (Parsad & Harker, 1997). Hence, the findings provide a powerful evidence that the costs of adopting ATM technology exceeds the benefits yielded by it (Mahboub, 2018; Giordani & Floros, 2015).

Investment in bank software, another variable of main interest, and control variable bank size are also significant at 5% and 10% level of significance in table 3. Whereas they are insignificant in model 2, therefore the relationship of these variables with ROE does not hold in the sample of this research. However, it may exhibit a different pattern in any other sample. A positive coefficient of bank software rejects existence of profitability paradox for this component of IT and infers that bank software has a positive impact on bank performance (Campanella, Della Peruta & Del Giudice, 2017). As it augmenting banks' ability, to reduce costs associated with the collection, storage, processing and transmission of information (Goddard et al., 2007), to increase sale of banking products and services, by helping banks in achieving economies of scale via automation of operational tasks, by decreasing the time required for communication of information required by management, freeing up banking staff to focus on cross-selling (Meepadung, Tang & Khang 2009), decreasing costs, by augmenting to enhance quality of outputs, and, more importantly, improvements in intangible aspects of products already on offer such as speed, maintenance of turnaround time, quality, and variety (Brynjolfsson & Hitt, 2000). Positive coefficients of control variable entail the role of assets as economic resources to generate profit for banks (Safari & Yu, 2014; Ou, et al., 2009).

Therefore, differently from existing literature the results add to our understanding that the impact of different components of IT on banks' profitability is mixed. Investment in bank software seems to have a positive influence on bank profitability, while the acquisition of ATMs negatively influences banks' performance. From our results we can interestingly conclude that benefits and problems are two conflicting faces of IT use that affect bank profitability in opposing directions. In short, it can be summarized that, IT is a wider term and encompasses many different components in itself. Hence, the present research argues that rather than taking IT as a whole and divulging into a paradox, it is prudent to analyze the impact of IT on banks profitability in components to have a clearer picture that how different components of IT impact profitability of banks. Due its empirical finding, this research is an important contribution to existing literature and concludes that IT paradox is not necessarily a paradox of IT in totality and should be termed as 'IT component paradox' ,which is a new term, as IT paradox may exist for a particular component of IT and may not in case of other.

6. Recommendations

Alternative IT distribution channels, such as ATM have abundant availability and low charges due to competition and benefits are thus passed on to customers. A prudent approach in this case for banks can be to join hands and install ATM under joint ownership and share expenses. In this manner customers still stand to gain the same advantage, but through joint ownership each banks' expenses will reduce and retail banking profits may get impacted positively through cost effectiveness. As banks today employ more advanced ERP based core banking software, they should make more robust and efficient use of these software to increase their range of products on offer to customers. Banks should view IT in components and as a profitability factor rather than a back-office supporting function, this could develop a sustainable competitive advantage and would improve the profitability of banking industry in the long run.

It can be noted that the subject area of this research is less explored in developing countries Therefore, future research in the area should be focused in these countries. Second, investigating the impact of IT by employing more measures of financial performance such as revenues, profits, sales growth, and return on investment. Data pertaining to IT is usually not easily available, the future researchers can employ additional proxies of IT based on availability of data to assess the impact of different components of IT on bank profitability.

References

Abubakar, A. A., & Tasmin, R. B. H. (2012). The impact of information and communication technology on banks' performance and customer service delivery in the banking industry. *International Journal of Latest Trends in Finance and Economic Sciences*, *2*(1), 80-90.

Acemoglu, D., Autor, D., Dorn, D., Hanson, G. H., & Price, B. (2014). *Return of the Solow paradox? IT, productivity, and employment in US manufacturing* (Working paper No. w19837). Cambridge, Massacheutus, USA: National Bureau of Economic Research.

Alpar, P., & Kim, M. (1990). A microeconomic approach to the measurement of information technology value. *Journal of Management Information Systems*, *7*(2), 55-69.

Baum, C. F., Schaffer, M. E., & Stillman, S. (2003). Instrumental variables and GMM: Estimation and testing. *Stata Journal*, *3*(1), 1-31.

Baum, F. C. (2006). *An Introduction to Modern Econometrics Using Stata*. Texas, USA: Stata Press.

Beccalli, E. (2007). Does IT investment improve bank performance? Evidence from Europe. *Journal of Banking & Finance, 31*(7), 2205-2230.

Berger, A. N. (2003). The economic effects of technological progress: Evidence from the banking industry. *Journal of Money, Credit, and Banking, 35*(2), 141-176.

Bond, S. (2002). *Dynamic Panel Models: A Guide to Micro Data Methods and Practice. Institute for Fiscal Studies* (Working Paper No. CWP09/02). London, UK: University College London, Department of Economics, CEMMAP (Centre for Microdata Methods and practice).

Brynjolfsson, E. (1993). The productivity paradox of information technology. *Communications of the ACM, 36*(12), 66-77.

Brynjolfsson, E., & Hitt, L. M. (2000). Beyond computation: Information technology, organizational transformation and business performance. *The Journal of Economic Perspectives, 14*(4), 23-48.

Campanella, F., Della Peruta, M. R., & Del Giudice, M. (2017). The effects of technological innovation on the banking sector. *Journal of the Knowledge Economy*, *8*(1), 356-368.

Dos Santos, B., & Sussman, L. (2000). Improving the return on IT investment: the productivity paradox. *International Journal of Information Management*, *20*(6), 429-440.

Dos Santos, B., & Sussman, L. (2000). Improving the return on IT investment: the productivity paradox. *International Journal of Information Management*, *20*(6), 429-440.

Efendic, A., Pugh, G., & Adnett, N. (2009). Institutions and economic performance: System GMM modelling of institutional effects in transition. *Unpublished Paper, Staffordshire University Business School, Stoke-on-Trent, UK.* Retrieved from http://www.riinvestinstitute.org/pdf/Efendic_et_al.pdf

Eyadat, M., & Kozak, S. J. (2005). The role of information technology in the profit and cost efficiency improvements of the banking sector. *Journal of Academy of Business and Economics*, *5*(2), 70-75.

Giordani, G., & Floros, C. (2015). Number of ATMs, IT investments, bank profitability and efficiency in Greece. *Global Business and Economics Review*, *17*(2), 217-235.

Goddard, J., Molyneux,P., Wilson, J.O.S. and Tavakoli M. (2007). European banking: An overview. *Journal of Banking & Finance, 31*(7), 1911-1935.

Gupta, S. D., Raychaudhuri, A., & Haldar, S. K. (2018). Information technology and profitability: evidence from Indian banking sector. *International Journal of Emerging Markets*, *13*(5), 1070-1087.

Hernando, I., & Nieto, M. J. (2007). Is the Internet delivery channel changing banks' performance? The case of Spanish banks. *Journal of Banking & Finance, 31*(4), 1083-1099.

Hitt, L. M., & Brynjolfsson, E. (1996). Productivity, business profitability, and consumer surplus: three different measures of information technology value. *MIS quarterly, 20*(2), 121-142.

Ho, S. J., & Mallick, S. K. (2006). *The impact of information technology on the banking industry: Theory and empirics.* Queen Mary, University of London, UK. Retrieved form http://webspace.qmul.ac.uk/pmartins/mallick.pdf

Ho, S. J., & Mallick, S. K. (2010). The impact of information technology on the banking industry. *Journal of the Operational Research Society*, *61*(2), 211-221.

Holden, K., & El-Bannany, M. (2004). Investment in information technology systems and other determinants of bank profitability in the UK. *Applied Financial Economics*, *14*(5), 361-365.

Jalal-Karim, A., & Hamdan, A. M. (2010). *The impact of information technology on improving banking performance matrix: Jordanian Banks as case study*. Paper presented at the European Mediterranean and Middle Eastern Conference on Information System. Retrieved from http://blog.stikom.edu/erwin/files/2012/08/the-impact-of-information-technology-on-improving-banking-performance-matrix-jordanian-banks-as-case-study.pdf

Jesudasan, S., Pinto, P., & Prabhu, R. (2013). Impact of Investment in Information Technology on Performance of Banks and National Economy: A Study with respect to Karnataka Bank Ltd. *Gian Jyoti E-Journal*, *3*(2), 94-103.

Karimzadeh, D. S. D., Emadzadeh, D. M., & Shateri, J. (2014). The Effects Of Electronic Banking Expansion On Profitability Of A Commercial Bank (Sepah Bank Of Iran). *Indian J. Sci. Res*., *4*(6), 305-312.

Kauffman, R. J., & Banker, R. D. (1991). Case study of electronic banking at Meridian Bankcorp. *Information and Software Technology*, *33*(1), 200−204.

Lee, H., Choi, H., Lee, J., Min, J., & Lee, H. (2016). Impact of IT Investment on Firm Performance Based on Technology IT Architecture. *Procedia Computer Science*, *100*(91), 652-661.

Mahboub, R. M. (2018). The Impact of Information and Communication Technology Investments on the Performance of Lebanese Banks. *European Research Studies Journal*, *21*(4), 435-458.

Meepadung, N., Tang, J. C., & Khang, D. B. (2009). IT-based banking services: Evaluating operating and profit efficiency at bank branches. *The Journal of High Technology Management Research*, *20*(2), 145-152.

Mehmood, B., Shafique, A., & Rafaqat, R. (2014). Is Solow's Paradox Absent in World Leading Capital Markets? Econometric Evidence. *Romanian Economic Journal*, *17*(52), 45-62.

Mittal, R. K., & Dhingra, S. (2007). Assessing the impact of computerization on productivity and profitability of Indian banks: an application of data envelopment analysis. *Delhi Business Review*, *8*(1), 63-73

Mustafa, S., & Mehmood, B. (2015). Efficiency Change in Pakistan Commercial Banking Sector: A Pre and Post Digital-Restructuring Analysis. *Journal of Emerging Economies and Islamic Research (JEEIR)*, *3*(1), 1-12.

Onay, C., Ozsoz, E., & Helvacıoğlu, A. D. (2008). *The impact of Internet-Banking on Bank Profitability-The Case of Turkey*. Paper presented at the Oxford Business & Economics Conference Program. Retrieved from http://gcbe.uswww.gcbe.us/2008_OBEC/data/Ceylan%20Onay,%20Emreozsoz,%20Asli%20Deniz%20Helvacioglu.doc

Ou, C. S., Yen, D. C., & Hung, C. S. (2009). Determinants of information technology investments: The case of ATM in an emerging economy. *Advances in Accounting*, *25*(2), 278-283.

Prasad, B., & Harker, P. T. (1997). *Examining the contribution of information technology toward productivity and profitability in US retail banking* (Working Papers# 97-09). Philladelphia, Pennsylvania, USA: The Wharton Financial Institutions Center.

Rauf, S., Qiang, F., & Sajid, K.U. (2014). Electronic Debit Card Usage and their Impact on Profitability of Pakistan Banking Sector: ROA, Model. *European Journal of Business and Management, 6*(4), 1-7.

Roodman, D. (2006). *How to do xtabond2: An introduction to "Difference" and "System" GMM in Stata* (Working Paper 103). Northwestern, USA: Center for Global Development.

Roodman, D. (2007). *A Short Note on the Theme of Too Many Instruments* (Working Paper No. 125) Northwestern, USA: Center for Global Development.

Roodman, D. (2009). How to do xtabond2: An Introduction to "Difference" and "System" GMM in Stata. *Stata Journal 9*(1), 86-136.

Safari, M. R., & Yu, L. Z. (2014). Impact of Information and Communication Technology (ICT) on Efficiency: Evidence from the Iranian Banking Industry. *World Applied Sciences Journal*, *29*(2), 208-218.

Sarafidis, V., Yamagata, T., & Robertson, D. (2009). A test of cross section dependence for a linear dynamic panel model with regressors. *Journal of Econometrics*, *148*(2), 149-161.

Shaoa, B. B., & Lin, W. T. (2002). Technical efficiency analysis of information technology investments: a two-stage empirical investigation. *Information & Management*, *39*(5), 391-401.

Shu, W., & Strassmann, P. A. (2005). Does information technology provide banks with profit? *Information & Management, 42*(5), 781-787.

Solow, R.M. (1987, July 12). We'd better watch out. *New York Times Book Review*. Retrieved from http://www.standupeconomist.com/pdf/misc/solow-computer-productivity.pdf

Stratopoulos, T., & Dehning, B. (2000). Does successful investment in information technology solve the productivity paradox? *Information & Management, 38*(2), 103-117.

State Bank of Pakistan (2012). Annual Performance Review. Retrieved from http://www.sbp.org.pk/reports/annual/arFY12/Vol-2/eng/CompleteReport.pdf

Swierczek, F. W., & Shrestha, P. K. (2003). Information technology and productivity: a comparison of Japanese and Asia-Pacific banks. *The Journal of High Technology Management Research*, *14*(2), 269-288.

Tahir, S. H., Shah, S., Arif, F., Ahmad, G., Aziz, Q., & Ullah, M. R. (2018). Does financial innovation improve performance? An analysis of process innovation used in Pakistan. *Journal of Innovation Economics Management, 27*(3), 195-214.

Thakur, M. S. (2018). The Impact of Information Technology Advancement in Indian Banking Sector. *International Journal of Engineering Technology Science and Research*, *5*(1), 833-841.

Vekya, J.M. (2017). Impact of Electronic Banking on the Profitability of Commercial Banks in Kenya. *Journal of Technology and Systems, 1*(1), 18-39.

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Psychometric Validation and Prevalence of Compulsive Buying Behavior in an Emerging Economy

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Abstract

Prevalence of compulsive buying varies to a great extent that may be attributed to conceptual, methodological, cultural, sample, unreliable cutoff criteria and demographic differences in scales that measure this harmful behavior. This study aims to validate the psychometric properties of two compulsive buying scales; The Clinical Screener (TCS) and Compulsive Buying Index (CBI) develop a universal consumer classification criterion. We collected data from systematically selected 2820 shopping mall consumers and 895 university students from Pakistan. We used exploratory factor analysis (EFA) for identifying new factor structures and confirmatory factor analysis (CFA) for validating factor structures. Revised-TCS yielded two dimensions; shopping anxiety and irresistible spending measured with five items. Whereas, Revised-CBI proved to be a four items unidimensional measure. Both scales exhibited satisfactory reliability and validity and correlated with their antecedents and consequences in theoretically predicted directions. About 29 to 33 % of shopping mall consumers and 28 to 29 % of university students were classified as compulsive buyers with Revised-TCS and Revised-CBI respectively. Compulsive buying scales provide a better preview of the phenomenon when their theoretical, methodological and cultural differences are adjusted. This study measured the prevalence of compulsive buying with a new comprehensive universal classification continuum that categorizes consumers with respect to their level of compulsiveness. Revised scales and classification scheme will help psychologist, financial councilors and other practitioners to identify affected compulsive consumers on multiple levels. The study was limited to fashion clothing related products in shopping mall consumers and university students.

Keywords: *Compulsive Buying Scales, Scale Validation, Shopping Malls, Emerging Economies, Prevalence, Students*

1. Introduction

Shopping is an integral and necessary part of not only our everyday life but also our economy (Maraz et al., 2016). Shopping is no longer merely an act purchasing instead it has become a habit that may lead to a detrimental psychiatric problem known as compulsive buying behavior (McElroy et al., 1994; Black, Shaw, McCormick, Bayless, & Allen, 2012). Compulsive buying behavior (CBB) is defined as "chronic and repetitive purchasing that becomes a primary response to negative events or

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feelings" (Faber & O'Guinn, 1992, p. 459). This behavior is characterized by lack of control over the urges to purchase repeatedly to calm mental unrest (Roberts, Manolis, & Pulling, 2014) and also a loss of control over this purchasing behavior (Achtziger, Hubert, Kenning, Raab, & Reisch, 2015). Although DMS-5 (American Psychological Association, 2013) does not recognize CBB as a distinct psychological disorder, it has severe harmful personal, social, legal and financial consequences (Black et al., 2012).

Despite these detrimental consequences, CBB is on the rise (Moon & Attiq, 2018). The incidence of compulsive buying ranged between "2% to 8%" 25 years ago in the US (Faber & O'Guinn 1992). However, recent estimates indicate an escalation in this phenomenon by up to 17% (Maccarrone-Eaglen & Schofield, 2017). These estimates provide even disturbing figures when we see outside the US. For instance, in China 19% (Guo & Cai, 2011), 32% in France (Lejoyeux et al. 2007) and 11.3% in Brazil (Villella et al. 2011). These variations are due to the lack of validated scales of CBB in cultures and economies other than the US (Moon & Attiq, 2018; Achtziger et al., 2015; Maraz et al., 2016; Maccarrone-Eaglen & Schofield, 2017). Therefore, the primary purpose this study is to validate two most widely used scales of compulsive buying empirically; the clinical screener (TCS) (TCS; Faber & O'Guinn, 1992) and compulsive buying index (CBI; Ridgway, Kukar-Kinney & Monroe, 2008) in an emerging economy.

TCS is a self-reported seven items measure developed as a screener to identify compulsive buyers from the general population. Items included in TCS assess particular feelings, thoughts, and behaviors related to compulsive buying (Faber & O'Guinn, 1992). Initially, the items converged to a single factor in a sample of 388 self-identified compulsive buyers and 292 general consumers suggesting unidimensionality of measure with high internal consistency (Cronbach' Alpha=0.95) (Faber & O'Guinn, 1992). Using the cutoff point at two standard deviations (a screener level of p = 0 .7) above mean of the normal population, the clinical screener successfully classified 8.1% general population as compulsive buyers (Faber & O'Guinn, 1992, p. 466). The authors went on to suggest to use a more conservative level of significance at p = 0.95 and classified 1.8 % of the general population as compulsive buyers.

CBI is a six items measure. IT incorporates both dimensions of impulse control disorder (ICD) and obsessive-compulsive disorder (OCD) measured with three items each (Ridgway et al., 2008). The initial pool of 121 items generated to tap both these dimensions of CBB was reduced to 15 items by three consumer behavior researchers and was further reduced to nine items in exploratory factor analysis (EFA). Confirmatory factor analysis (CFA) revealed the final six items of CBI loading on two dimensions with a sample of 352 undergraduate students. CBI, like (TCS) also uses a dichotomous categorization of compulsive buyers. Consumers achieving a total score > 25 or averaged above the midpoint of 4 were classified as compulsive buyers.

Despite the fact that most compulsive buying studies use these scale for measuring compulsive buying, they identify somewhat different cases of compulsive buying and estimated prevalence varies to a great extent (Maccarrone-Eaglen & Schofield, 2017;

Moon & Attiq, 2018). Researchers still believe that these estimates do not represent the accurate picture of compulsive buying in the US in general and in other cultures and emerging economies in particular (Maraz et al., 2016, Neuner, Raab & Reisch 2005).

These differences may be attributed to conceptual, methodological, cultural, sample and demographic differences and use of unreliable cutoff point to estimate prevalence (Maccarrone-Eaglen &Schofield, 2017; Maraz et al., 2016, Neuner, Raab & Reisch 2005). For instance, conceptually, TCS focuses on the impulse control side of compulsive disorder whereas, CBI incorporates both obsessive-compulsive and impulse control sides of CBB. TCS has culturally conflicting items such as "Made only the minimum payments on my credit cards." because credit card usage is not common in emerging countries when compared to developed economies (Tommasi & Busonera, 2012). Both of these scales use arbitrary cutoff points and dichotomously classify consumers into compulsive or non-compulsive buyers (Ridgway et al., 2008; Moon & Attiq, 2018). Recent developments in the field emphasize that there may be more than two levels of compulsiveness of consumers (Moon & Attiq, 2018; Maraz et al., 2016). Therefore, these classifications of consumers are over or under classification.

TCS estimates lifetime prevalence, whereas CBI estimates current prevalence. The lifetime estimates tend to over-represent the phenomenon and identify older consumers as compared to the estimates calculated by current prevalence. Furthermore, various studies have found different factor structures for TCS and CBI (Horváth, Adigüzel & Herk, 2013; Gallagher et al. 2017; Tommasi & Busonera, 2012; Ridgway et al., 2008; Moon & Attiq, 2018) than the original ones. Furthermore, CBI is mainly used in the online sample, whereas, TCS is used mainly to screen out compulsive buyers from the general population.

As a result of the above discussion, a critical issue in compulsive buying research concerns how to operationalize and measure this problem behavior in emerging economies. The limited understanding of this behavior in emerging economies can mainly be attributed to the unavailability of locally validated scales (Horváth, Adigüzel & Herk, 2013; Maraz et al., 2016; Maccarrone-Eaglen & Schofield, 2017). To report the local validity and overcome controversies mentioned above, this study aims at 1) testing and validating original TCS and CBI scales and their factor structures. If not validated, 2) identifying and validating new factor structures in the shopping mall and student samples 3) defining a new categorization scheme for estimating the prevalence of compulsive buying. This study contributes to our understanding of CBB by 1) providing revised and locally validated scales of CBB, 2) examining the underlying mechanism of CBB in an emerging economy by examining the relationships between CBB, its antecedents & consequences and 3) providing the prevalence estimates of CBB in shopping mall consumers and university student sample in Pakistan for the first time.

In the following section, we discuss the methodological, cultural and technical limitations and shortcomings of both these scales in detail and discuss the correlates of compulsive buying behavior to establish nomological validity.

2. The Clinical Screener (Faber & O'Guinn, 1992)

TCS has several limitations and has been criticized over the years. For instance, the sample size used in the development of this TCS was minimal. The major focus of TCS is on the impulse control disorder as four out of seven items (1, 2, 3, 4) address this dimension while ignoring obsessive-compulsive disorder dimension of this behavior (McElroy et al. 1994; Hollander & Allen 2006). TCS also incorporates antecedents and consequences of behavior as part of the scale, which should not be included in the scale (Ridgeway et al., 2008). Some culturally conflicting items such as item three and five (See Table 1) may not be an accurate representation of the phenomenon because checks are an outdated method of payments and credit cards are country specific (Ridgway et al. 2008; Maraz et al., 2016; Maccarrone-Eaglen & Schofield, 2017). TCS heavily depends upon income-related items (3, 4 and 7) Therefore, it does not screen higher income compulsive buyers from the general population (Roberts, Manolis, & Pulling, 2014).

TCS presents a very narrow, limited and quite restricted scope of compulsive buying behavior as it can only screen severe cases of compulsive buying behavior (Ridgway et al., 2008; Edwards, 1993; Roberts, Manolis, & Pulling, 2014). Many researchers (e.g. Maccarrone-Eaglen &Schofield, 2017; Ridgway et al., 2008; Maraz et al., 2016) have raised concerns about the decision of the cutoff point where, if an individual achieves TCS score < -1.34 then he/she would be classified as a compulsive buyer. Although the decision for cutoff point was made utilizing the most rigorous and detailed analytical procedure, still it is an arbitrary cut off point, and it should be re-assessed in a more meaningful manner (Maccarrone-Eaglen &Schofield, 2017; Edwards, 1993).

TCS measures past/lifetime prevalence of compulsive buying tendencies that are age-dependent and does not portray the true picture of the prevalence at the given point of time (Maraz et al., 2016). TCS uses a dichotomous scheme of categorization of the consumers into non-compulsive and compulsive buyers. This dichotomous categorization may lead to misclassification of consumers with respect to their degree or level of compulsiveness (Edwards, 1993). Originally, TCS was a unidimensional measure, but evidence suggest that TSC yields more than one factor, particularly outside U.S (e.g., Ridgway et al., 2008: Kwak et al. 2003; Roberts & Sepulveda, 1999). Therefore, we predominantly assume that TSC will not yield a single factor solution in cultures/countries other than the U.S.

Table 1: The Clinical Screener (Faber & O'Guinn, 1992)

Codes	Statements*	Modified Statements
FO1	Bought things even though I couldn't afford them.	I buy things even though I can't afford them. میں وہ چیزیں بھی خرید تا/خریدتی ہوں جن کو افورڈ نہیں کر سکتا/سکتی۔
FO2	Felt others would be horrified if they knew of my spending habits.	I feel that others would be horrified if they knew my spending habits. مجھے لگتا ہے لوگوں کو میری شاپنگ کرنے کی عادات خوفناک لگیں گی۔

FO3	Wrote a check when I knew I didn't have enough money in the bank to cover it.	I borrow money when I know that I don't have enough resources at my disposal. جب شاپنگ کے لئے پیسے نا ہوں تومیں ادھارلے لیتا/ لیتی ہوں-
FO4	If I have any money left at the end of the pay period, I just have to spend it.	If I have any money left at the end of the month, I just have to spend it مہینے کے آخر میں بچے ہوئے پیسے میں ہر حال میں خرچ کر دیتا /دیتی ہوں-
FO5	Made only the minimum payments on my credit cards.	I buy excessively from my credit card but pay the minimum credit card bill to keep it running. میں اپنے کریڈٹ کارڈ سے بہت زیادہ شاپنگ کرتا /کرتی ہوں لیکن صرف اتنا بل ادا کرتا/کارتی ہوں جس سے کارڈ بند نا ہو-
FO6	Felt anxious or nervous on days I didn't go shopping.	I feel anxious or nervous on days I don't go shopping. جس دن میں شاپنگ کرنے نا جاؤں اس دن مضطرب یا پریشان رہتا/ رہتی ہوں-
FO7	Bought something in order to make myself feel better.	Sometimes I buy things to make me feel better. بعض اوقات میں اپنے آپ کو اچھا محسوس کروانے کے لئے شاپنگ کرتا/کرتی ہوں-
FO8[a]	I just wanted to buy things and did not care what I bought	Sometimes, I just want to buy things and don't care what I buy. بعض اوقات میرا دل چاہتا ہے کہ میں شاپنگ کروں اس بات کی پرواہ کئے بغیر کہ کیا خرید رہا /رہی ہوں-
FO9[a]	I really believe that having more money would solve most of my problem	I really believe that having more money would solve most of my problems. مجھے یقین ہے کہ پیسے کی فراوانی ہی میری زیادہ تر مشکلات کا حل ہے-

Notes: Items not included in the original 7 items final TCS.
*Original items

3. Compulsive buying Index (Ridgway et al., 2008)

The theoretical foundation of obsessive-compulsive spectrum disorder placed CBB farther from obsessive-compulsive disorder and nearer to impulse control disorder on the continuum (Hollander & Allen 2006). CBI placed an equal emphasis on the obsessive-compulsive dimension in comparison to the previously acknowledged and dominant dimension of impulse buying (Edwards, 1993; Faber & O'Guinn, 1992). Equal weighting of both dimensions may affect the results when it comes to the categorization and prevalence estimates. Although the cutoff point is carefully selected by comparing it to TCS, it is still an arbitrary decision at best (Maraz et al., 2016). CBI is majorly used to screen out online compulsive buyers. Its applicability to other consumer settings is scarce.

CBI only identifies two categories of consumers', i.e., compulsive or non-compulsive, while ignoring the presence of other levels of compulsiveness in individuals (Maccarrone-Eaglen &Schofield, 2017; Edwards, 1993; Moon & Attiq, 2018). The correlation found in three studies conducted by (Ridgway et al., 2008) between the two dimensions of compulsive buying index was 0.77 (in study 1), 0.60 (in study 2) and 0.72 (in study 3). This may imply that both obsessive-compulsive dimension and

impulse buying dimension of CBI have negligible theoretical differences (Hair et al., 2013). Resultantly, CBI may provide a different factor structure than proposed originally.

Table 2: Compulsive Buying Index (Ridgway, Kukar-Kinney & Monroe, 2008)

Codes	Statements [a]	Modified Statements
R1A*	My closet has unopened shopping Bags in it.	My closet has unopened shopping bags in it. میرے پاس میری شاپنگ کی ایسی چیزیں بھی موجود ہیں جو میں نے ابھی تک نہیں کھولی۔
R2A*	Others might consider me a Shopaholic.	Others might consider me a shopaholic. لوگ مجھے شاپنگ کا بہت شوقین سمجھتے ہیں۔
R3A	I buy something for myself almost Every day.	I buy something for myself almost every day. میں تقریباًروزانہ اپنے لئے کچھ نا کچھ خریدتا /خریدتی ہوں۔
R4A*	Much of my life centers around Buying things.	Much of my life centers around buying things. شاپنگ میری زندگی میں قلیدی حیثیت رکھتی ہے۔
R5B*	I buy things I don't need	I often buy things I don't need. میں اکثر وہ چیزیں خریدتا/خریدتی ہوں جن کی مجھے ضرورت نہیں ہوتی۔
R6B*	I buy things I did not plan to buy	I often buy things I did not plan to buy میں اکثر وہ چیزیں خریدتا/خریدتی ہوں جن کو خریدنے کا میں نے پہلے ارادہ نہیں کیا ہوتا۔
R7B	I buy things without thinking	I buy things without thinking. میں سوچے بغیرچیزیں خریدتا/خریدتی ہوں۔
R8B	I am a bit reckless about what I buy	I am a bit reckless about what I buy. میں خریداری میں تھوڑا لاپرواہ ہوں۔
R9B*	I consider myself an impulse purchaser.	I consider myself an impulse purchaser. میں خود کو غیر ارادی طورپر خریداری کرنے واالا/والی سمجھتا/سمجھتی ہوں۔

Notes: Original items, * Items included in final CBI, A= Obsessive compulsive buying dimension, B= Impulse buying dimension

4. Compulsive Buying Behavior Correlates

To test the nomological validity of Revised-TCS and Revised-CBI, we examined the relationship between both scales of compulsive buying behavior, and it is theoretical correlates in university student sample (Sample B = 895). Compulsive buying is attributed to needless, uncontrollable and excessive shopping and this phenomenon is facilitated because of the introduction of shopping malls in emerging economies (Achtziger et al., 2015; Horváth, Adigüzel & van Herk, 2013; Kukar-Kinney, Scheinbaum & Schaefers, 2016). We included five antecedents of compulsive buying behavior in this study to test nomological validity. The first antecedent, depression is a severe medical illness that negatively affects how one feels, thinks and acts (McElroy et al., 1994). The second antecedent, anxiety is an internal state of distress and agitation (Bittner, Goodwin, Wittchen, Beesdo, Hofler & Lieb, 2004). The third antecedent stress is any uncomfortable emotional experience accompanied by predictable biochemical, physiological and behavioral changes (Baum, 1990). Self-esteem is the fourth antecedent and is defined as "An individual set of thoughts and feelings about his or her

worth and importance" (Rosenberg, 1965). Materialism, the fifth antecedent, is defined as the convictions of an individual that worldly possessions are the principal aim of life and a crucial course to identity, joy, and prosperity (Richins, 2004). Based on the previous findings, we hypothesized a positive relationship between depression, anxiety, stress , materialism and both scales (TCS and CBI) of compulsive buying behavior (Weinstein et al., 2016; ; Otero- Lopez & Villardefrancos, 2013; Baker, Moschis, Rigdon & Fatt, 2016; Moon & Attiq, 2018; Maraz et al., 2016; Grougiou, Moschis & Kapoutsis, 2015). A negative relationship between low self-esteem and compulsive buying was assumed based on previous research (Orth, Robins, Widaman, 2012; Ridgway et al., 2008; Moon & Attiq, 2018).

Furthermore, we also included two consequences of compulsive buying behavior to test the external validity of both TCS and CBI. First consequence, positive feelings are defined as the momentary high that a compulsive buyer feels after buying compulsively (Moon & Attiq, 2018; Ridgway et al., 2008). The second consequence is hiding behavior, which is defined as a compulsive consumer's tendency to hide his/her purchases from others due to anticipatory feelings of guilt, shame or remorse and criticism (Moon & Attiq, 2018; Ridgway et al., 2008). Based on the previous findings, we assumed that both TCS and CBI would positively correlate with positive feelings and hiding behavior (Moon & Attiq, 2018; Ridgway et al., 2008: Weinstein et al., 2016).

5. Methodology

5.1. Sample

Sample A consisted of 2820 (TCS=1405, CBI= 1415) systematically (every 5th) selected consumers entering the shopping mall (where clothing related products were available) in different cities of Pakistan. Sample B consisted of 895 systematically (every 5th) selected students from various universities of Pakistan who answered to TCS and CBI scales along with their various correlates. We used various guidelines for sample size selection. For instance, as a rule of thumb, the minimum sample size required for conducting an exploratory factor analysis (EFA) and structural equation modeling is 150 and 200 respondents respectively (Kline 2015; Hair et al., 2013). Hair et al. (2013) recommend that participant to observe variable ratio (1:5) to determine the minimum sample required. As a general rule of thumb for multivariate analysis, we require at least 300 respondents (Moon et al., 2018; Beavers et al., 2013). Previous researchers used maximum 1447 shopping mall consumers (Maraz et al., 2015) and 854 university students (Zhao, Tian & Xin, 2017). The sample size in this study comfortably exceeds the required minimum thresholds.

5.2. Measures

TCS is a self-reported seven items scale (Faber & O' Guinn, 1992). We made a few modifications in the TCS in line with the study objectives. First, to measure the current prevalence effectively, we transformed TCS items from past to present tense. Second, we measure all items on a five-point level of agreement Liker scale anchored at "1 =

strongly disagree/5 = strongly disagree". Third, we included two more items (Table 1: item 8 and 9) left initially because of their negative factor loads and positive bivariate correlations with other seven items (Faber & O' Guinn, 1992). Fifth, we translated the original TCS into Urdu for administration. Three English and Urdu language experts translated and then back-translated the questions. Three consumer behavior experts then evaluated the items for context. In the end, two experts (authors) approved the final version.

CBI (Ridgway et al., 2008) is six items two-dimensional scale that measures the elements of compulsivity and impulsivity of compulsive buying behavior. We made a few technical changes in the original CBI. First, we included three items (item 3, 7 and 8) that Ridgway et al. (2008) excluded during CFA. Second, we employed a five-point level of agreement Likert scale that ranged from "1 = strongly disagree to 5 = strongly agree". Third, we modified two items (items 4 and 5) so that they may be measured on the level of agreement. Fourth, we translated the items to Urdu following the same procedure outlined for TCS.

As correlates of CBB, we adopted nine items materialistic value scale (Richins, 2004), anchored at 1 = strongly disagree and 5 = strongly agree. We adopted Rosenberg's (1965) 10 items self-esteem scale, anchored from 1= strongly disagree to 4=strongly agree. The DASS-21 measures each depression, anxiety, and stress with seven items (Lovibond & Lovibond, 1995). A severity scale of four points (at 0 = "didn't apply to me at all" and 3 = "Applied to me very much or most of the time") measures the extent to which each state is experiencing over the past week. We measured hiding behavior, and positive feelings three items each developed by Ridgway et al. (2008) on a seven-point Likert scale anchored at 1= strongly disagree and 7 = strongly disagree. We translated all these measures into Urdu following the procedure mentioned above for TCS and CBI.

5.3. Data Collection

5.3.1. Sample A (Shopping Mall Consumers)

We collected data from shopping mall consumers via mall intercept method from several shopping malls across the country between March and December 2017. We carefully selected shopping malls keeping in mind that the shopping mall must have clothing related assortment (Local and International brand representation) and healthy customer flow. Seven groups of 4 to 7 students, who were provided with the necessary training, collected the data against extra course credits during regular operating hours of shopping malls. TCS and CBI were administered in two separate survey questionnaires along with primary demographics characteristics that included gender, age, income and buying frequency. Overall, we contacted 25,190 individuals in shopping malls. Of whom 8,901 did not stop at all and 16,289 stopped and received study information. 8,238 agreed to participate in the study, of which 2,612 were excluded from the study because they were below 18 years. A total of 5,626 participants received the study questionnaire, and 1,112 did not return the questionnaire while

another 756 started but did not complete. After removing responses that contained missing demographic information and unengaged responses, we were left with 2820 (TCS= 1405, CBI=1415) valid, usable surveys.

5.3.2. Sample B (University Students)

We collected data from different public and private universities of Pakistan between February and May 2017. Three groups of students (3 to 5 students), having completed their basic research course were assigned with this task against extra course credits. They collected data during the scheduled classes by systematically selecting students from the attendance register. The questionnaire included items of Revised-TCS and Revised-CBI along with the measures of materialism, self-esteem, depression, anxiety, stress, hiding behavior and positive. Initially, we contacted 3,145 students, but only 3004 agreed to participate in the study. 523 were dropped as these students were below the age of 18 years. In total 2,481 students were given questionnaires and only 1,539 completed and returned the questionnaire. After discarding unengaged responses and responses with too much missing information, we collected 895 valid usable responses.

5.4. Data Analysis

Before moving on to data analysis, we screened data for any misapplications. First, we removed cases with excessive missing values (Missing values ≥ 10%) and imputed missing data points (Missing values <10%) via the mean substitution method (Gallagher et al. 2017). We identified univariate out liars with z-scores and multivariate outliers with Mahalanobis distance (d2) at $p < 0.05$ (Byrne, 2013). For assumptions of normality, we assessed skewness (±1) and kurtosis (±3) (Tabachnick & Fidell, 2007). We tested multicollinearity between independent variables (Sample B = 895) with variable inflation factor (VIF < 10) and tolerance level (> 0.1) (Hair et al., 2013).

To test and validate original factors structures of TCS and CBI, we performed confirmatory factor analysis (CFA) with robust Maximum Likelihood Estimation (MLE) (Hair et al., 2013; Kline, 2015). We used multiple model fitness indices to assess the goodness of fit (see Kline, 2015). Further, we assessed modification indices (M.I. < 10), standardized factor loadings (FL ≥ 0.7), squared multiple correlations (SMCs ≥ 0.2) and standardized residual covariance (SRC < 2.58) for all observed variables in the model (Byrne, 2013; Kline, 2015).

Where the original factor structure did not fit the data in CFA, we conducted Exploratory Factor Analysis (EFA) to explore new factor structures for TCS and CBI with Maximum Likelihood Estimation (MLE) and Oblique Promax-Rotation (Beavers et al., 2013; Tabachnick & Fidell, 2007). To explore the new factor structures for TCS and CBI with sample A (N = 2820), we divided Sample A into randomly selected two non-over lapping groups (Maraz et al., 2016). We used Sample A 1 (TCS; N= 703: CBI; N=708) to identify new factor structures in EFA and Sample A 2 (TCS; N= 702: CBI; N=707) to confirm factor structure in CFA. In EFA, results of Kaiser-Meyer-Olkin (KMO ≥ 0.5) and Bartlett's test of Sphericity (App Chi-square at $p < 0.01$) indicated the

adequacy of sample size (Beavers et al., 2013; Leech, Barrett, & Morgan, 2005). Communalities ($h^2 \geq 0.2$) indicated a high correlation of an item with all other items (Henson & Roberts, 2006; Childs, 2006). We made factor retention decision based on; Kaiser Criterion of Eigenvalues > 1 (Costello & Osborne, 2005), Cattell's scree test (Henson & Roberts, 2006), factors explaining more than 50 % of cumulative variance (Beavers et al., 2013), goodness of fit with Chi-Square and degree of freedom at $p < 0.05$ (Hair et al., 2013; Kline, 2015) and theoretically explainable factors (Suhr, 2006). While evaluating pattern matrix, first, we removed items with factor loadings < 0.4 (Costello & Osborne 2005). Second, items with significant factor loadings ($FL \geq 0.4$) on multiple factors were removed. Third, any significant loading on one factor had to be twice as much the loading on any other factor for a particular item. Fourth, items significantly loading on any factor must converge with other items on the factor (Tabachnick et al., 2007). We confirmed these new factor solutions in CFA based on previously described criteria.

To test the nomological/external validity of TCS and CBI, we conducted structural equation modeling (SEM) using two-step procedure outlined by (Anderson & Gerbing, 1988) on a second independent sample (Sample B = 895). To evaluate reliability and validity of the measures, we used Cronbach's Alpha ($\alpha \geq 0.7$), Inter-construct correlations ($r \leq 0.7$), composite reliability ($CR \geq 0.7$) and average variance extracted ($AVE \geq 0.5$) (Hair et al., 2013; Fornell & Larcker, 1987).

To overcome the shortcomings of cutoff points and classification schemes of TCS and CBI, we purpose a universal cutoff point that classifies consumers on a continuum (See Moon & Attiq, 2018). Drawing on psychological object theory (Albanese, 1988) this continuum draws a parallel between compulsive and addictive buying to identify compulsive buyers with respect to varying levels of compulsiveness of consumers. We calculate respondent's mean score on the CBB scale and categorize consumers as non-compulsive/normal consumer (Mean= 1.0), recreational consumer (Mean= 1.1-2.0), borderline compulsive consumers (Mean= 2.1-3.0), compulsive consumers ((Mean= 3.1-4.0) and addictive consumers (Mean= 4.1-5.0).

6. Results and Analysis

6.1. Sample demographics

Out of total 2820, shopping mall consumers (Sample A), 61% were male, and 39% were female. Majority of the respondents (78%) were between the ages of 18 to 28 years and the majority (57%) had a monthly income up to PKR 50,000. Only 16% reported buying daily, whereas 29% and 55% reported buying weekly and monthly respectively. In Sample B (N = 895), 51 % of students were females, and 79% were of age between 18 to 26 years. They had an average monthly income, not more than PKR 30000 (66%) and reported buying once a month (72%), weekly (18%) and daily (10%).

6.2. Original Factor Structure Validation of TSC and CBI

We conducted CFA on original seven items TCS (N=1405) to test original one factor solution. Goodness of fit results indicated a non-optimal model fit (CMIN/df= 5.24, GFI= 0.85, AGFI= 0.97, CFI=0.95, IFI= 0.92, NFI= 0.91, TLI= 0.88, RMSEA= 0.06, PClose= 0. 007) where three items had poor factors loadings. Likewise, to test original two factor structure of CBI, we performed CFA on six items, loading on two dimensions (impulsive buying= 3 items, compulsive buying= 3 items) with Sample A (N=1415). Two factor solution did not produce an optimal fit (CMIN/Df= 6.64, GFI= 0.88, AGFI= 0.96, CFI=0.97, IFI= 0.97, NFI= 0.96, TLI= 0.94, RMSEA= 0.07, PClose= 0. 009) with two items loading significantly (M.I. > 10) on alternative dimensions. Based on CFA results, we decided to identify new factor structure for TCS and CBI. Further, the correlation between both dimensions (r = 0.94) indicated that scale does not produce two theoretically distinct factors (Moon & Attiq, 2018).

6.3. Revised TCS and CBI: New Factor Structure

We performed EFA on nine items of TCS on Sample A1 (N=703). We included two additional items along with seven original items because these seven items could not produce an explainable factor solution (Maraz et al., 2016; Moon & Attiq, 2018).

Table 3: Inter-Item Correlations for TCS

Items	FO2	FO6	FO8	FO1	FO3
FO2	1.00				
FO6	0.38**	1.00			
FO8	0.46**	0.54**	1.00		
FO1	0.20**	0.31**	0.29**	1.00	
FO3	0.18**	0.16**	0.19**	0.37**	1.00

Notes: ** $p < 0.01$, Determinant = .656

Results of the goodness of fit statistics (Chisquare= 1.850, Df= 1, $p < 0.01$) in parallel analysis indicated that two-factor solution best represents the data, accounting for 57 % accumulated variance with Eigenvalues > 1. In Table 4, it is evident that all items load significantly on their respective factor and no cross-loadings exist. Factor 1 consists of three items, whereas factor two has two items. Inter-item correlations (Table 3) are significant for all items (Beavers et al., 2013). Two factors significantly correlate with each other with a moderate correlation coefficient ($r = 0.25$, $p < 0.01$) indicating two distinct yet theoretically related factors (Gallagher et al. 2017). We labeled two factors as; Shopping Anxiety ($\alpha = 0.79$) and Irresistible Spending ($\alpha = 0.71$) respectively based on thematic interpretation. Shopping anxiety refers to the state of restlessness that is associated with shopping, and irresistible spending refers to the compulsion to spend on undesired things. The overall reliability for the scale as measured by Cronbach's alpha was 0.81.

Table 4: Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Reliability and Validity of TCS

New Item #	Original Item #	EFA					CFA		
		Factor 1 Shopping Anxiety	Factor 2 Irresistible Spending	Communalities	Item Mean	Corrected Item-Total Correlation	Loadings	SMCs	t-values
1	**FO2**	**0.71**	-0.04	0.49	3.20	0.32	0.80	0.25	20.94
2	**FO6**	**0.70**	0.09	0.54	2.75	0.40	0.81	0.37	16.28
3	**FO8**	**0.75**	-0.04	0.55	3.05	0.35	0.87	0.32	18.22
4	**FO1**	.018	**0.67**	0.56	3.13	0.35	0.92	0.38	11.84
5	**FO3**	-0.13	**0.89**	0.74	2.83	0.23	0.68	0.32	18.98
Cumulative Variance Explained		**37.40%**	**57.90%**						
Eigen Value		**01.87**	**01.02**						
Factor Correlation		**0.25**							
Cronbach's Alpha (α)		**0.79**	**0.71**						
Overall Scale (α)		**0.81**							
Composite Reliability (CR)		**0.80**	**0.69**						
Overall Scale (CR)		**0.83**							
Average Variance Extracted (AVE)		**0.53**	**0.48**						
Overall Scale (AVE)		**0.56**							

Notes: Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization.

For factorial validity of the model, we conducted CFA on five items of Revised-TCS with sample A2 (N=702). A two factor reflective measurement model, Factor 1(Shopping Anxiety = three items) and Factor 2 (Irresistible spending= two items) was specified which provided good fit to the data (CMIN/Df= 2.81, GFI= 0.99, AGFI= 0.98, CFI=0.99, IFI= 0.97, NFI= 0.98, TLI= 0.97, RMSEA= 0.03, PClose= 0.795). Table 4 displays the CFA statistics for five items of two dimensions. Convergent and discriminant validity statics provide legitimacy to the model (Bagozzi & Yi, 1988) i.e. for shopping anxiety (Cronbach's Alpha = 0.79, CR= 0.80, AVE= 0.53) and for irresistible spending (Cronbach's Alpha = 0.71, CR = 0.69, AVE = 0.48). We used a second order measurement model to test the extent to which both dimensions have Revised-TCS (Compulsive Buying Behavior) as a common causality (Ridgeway et al., 2008; Maccarrone-Eaglen & Schofield, 2017). Data provided a substantial fit to the model (CMIN/Df= 4.37, GFI= 0.98, AGFI= 0.95, CFI=0.95, IFI= 0.95, NFI= 0.94, TLI= 0.90, RMSEA= 0.07, PClose= 0. 059). Second order factor results revealed that both dimensions have substantial and significant factor loadings with Revised-TCS (Shopping Anxiety= 0.92, Irresistible Spending= 0.8). The convergent and discriminant validity statics for overall/composite TCS are (Cronbach's Alpha = 0.81, CR= 0.83, AVE= 0.56) indicating a valid scale. Based on these findings, Revised-TSC included five items representing two dimensions.

To explore new factor structure for nine items of CBI (with three additional items that the scale developers eliminated during CFA in their study), EFA was conducted with sample A1 (N=708). A one-factor solution provided the first adequate fit to the data (Chi-Square= 1.47, df= 2, $p < 0.01$) and accounted for 51 % variance with Eigen Value 2.01. Factor matrix results (Table 6) demonstrate that four items have strong and significant factors loadings. Fair and significant inter-item correlations were found (Table 5) and the Cronbach's alpha for the scale was 0.73 indicating internal consistency of items.

Table 5: Inter-Item Correlation for CBI

	R1A	R2A	R5B	R7B
R1A	1.00			
R2A	0.28**	1.00		
R5B	0.34**	0.33**	1.00	
R7B	0.31**	0.30**	0.44**	1.00

Notes: ** $p < 0.01$, Determinant = .568

To test the dimensionality of Revised-CBI, we conducted CFA with sample A2 (N = 707) on four items. The model provided an excellent fit to the data (CMIN/Df= .98, GFI= 0.99, AGFI= 0.99, CFI=0.99, IFI= 0.99, NFI= 0.98, TLI= 0.99, RMSEA= 0.00, PClose= 0. 643) with all standardized factor loadings conveniently meeting the required minimum threshold (Table 6). Convergent and discriminant validity statistics (Cronbach's Alpha = 0.73, CR= 0.79, AVE= 0.58) assures the reliability and validity of four items Revised-CBI.

Table 6: Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Reliability and Validity of CBI

		EFA				CFA		
New Item #	**Original Item #**	**Factor Loadings**	**Communalities**	**Item Mean**	**Corrected Item-Total Correlation**	**Factor Loadings**	**SMCs**	**T-Values**
1	**R1A**	**0.67**	0.45	3.14	0.41	0.73	0.53	07.97
2	**R2A**	**0.65**	0.43	3.16	0.40	0.53	0.28	15.96
3	**R5B**	**0.76**	0.58	2.82	0.51	0.64	0.40	12.78
4	**R7B**	**0.73**	0.54	3.12	0.47	0.69	0.48	09.03
Variance Explained			50.51%					
Eigen Value			2.02					
Cronbach's Alpha (α)			0.73					
Composite Reliability (CR)			0.79					
Average Variance Extracted (AVE)			0.58					

Notes: Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization.

6.4. Validity and Reliability

The EFA for TCS and CBI provided the first indication of convergent and discriminant validity. All items for TCS converged massively on their respective factors with significantly high factor loadings (FL > 0.4) indicating convergent validity of Revised-TCS. For Revised-CBI. The factor loadings were also significantly high indicating convergent validity (Leech et al., 2005). Higher communities (h2 > 0.2) among items of Revised-TCS and Revised-CBI indicate higher correlations between items, which is also evidence of convergent validity (Henson & Roberts, 2006; Childs, 2006). Furthermore, convergent validity is evident from the significant inter-item correlations of both Revised-TCS and Revised-CBI (Tabachnick & Fidell, 2007; Beavers et al., 2013). The final solutions for Revised-TCS and Revised-CBI had high factor loadings and no cross-loadings, which is an indication of discriminant validity (Tabachnick & Fidell, 2007). Moreover, the discriminant validity is evident from the correlation between Revised-TCS and Revised-CBI ($r = 0.45$, $p < 0.01$) which is less than 0.7 (Hair et al., 2013). To further examine the discriminant validity of scales, we calculated Average shared variance (ASV) and Maximum shared variance (MSV). ASV was less

than MSV and MSV was less than the AVE values for both scales, indicating the discriminant validity of the scales (Hair et al., 2013).

6.5. Nomological/External Validity

We assessed the nomological validity of Revised-TCS and Revised-CBI by investigating the relationship of CBB its correlates such as consumer demographic characteristics, previously identified antecedents and consequences (Hinkins, 1998; Hair et al., 2013; Kline, 2015). We expected Revised-TCS and Revised-CBI to be linked with antecedents and consequences in line with previous findings.

Table 7: Correlation Matrix

Sr #	Variables	1	2	3	4	4a	4b	5	6	7	8	9	10	11	12
1	**Gender**	1.00													
2	**Age**	-0.02	1.00												
3	**Income**	-0.06	0.42**	1.00											
4	**Revised-TCS**	.006*	0.03	-0.08*	1.00										
4a	**Irresistible Spending**	0.08*	0.01	-0.06*	**0.82****	1.00									
4b	**Shopping Anxiety**	0.04	0.03	-0.07*	**0.90****	.051**	1.00								
5	**Revised-CBI**	0.08*	0.03	-0.06	**0.45****	0.31**	0.45**	**1.00**							
6	**Depression**	-0.04	0.04	-0.06	**0.47****	0.37**	0.43**	**0.47****	1.00						
7	**Materialism**	0.00	-0.09**	-0.01	**0.09****	0.07*	0.09**	**0.06***	0.28**	1.00					
8	**Anxiety**	-0.00	0.06*	-0.07*	**0.41****	0.34**	0.37**	**0.44****	0.78**	-0.29**	1.00				
9	**Stress**	-0.03	0.05	-0.07*	**0.48****	0.39**	0.44**	**0.49****	0.83**	-0.30**	0.84**	1.00			
10	**Self Esteem**	0.05	-0.04	0.09**	**-0.54****	-0.44**	-0.49**	**-0.51****	-0.86**	0.24**	-0.79**	-0.83**	1.00		
11	**Positive Feelings**	0.03	0.01	-0.10**	**0.40****	0.33**	0.37**	**0.40****	0.75**	-0.28**	0.77**	0.80**	-0.77**	1.00	
12	**Hiding Behavior**	-0.07*	0.05	-0.05	**0.38****	0.29**	0.36**	**0.40****	0.63**	-0.17**	0.58**	0.65**	-0.60**	0.53**	1.00

Notes: * $p < 0.05$, ** $p < 0.01$, TCS=The Clinical Screener, CBI= Compulsive Buying Index

Correlation results (See Table 7) indicate that Revised-TCS and Revised-CBI significantly correlated with gender. This confirmed that women are more compulsive than men. Age is related to neither Revised-TCS nor Revised-CBI. Revised-TCS significantly correlated with income but the correlation was very weak, whereas Revised-CBI did not correlate with income. Revised-TCS is associated with income as it has two items indicative of unavailability of sufficient resources, but Revised-CBI is independent of income.

Reliability and validity statistics for depression ($\alpha = 0.81$, CR = 0.89, AVE = 0.61), anxiety ($\alpha = 0.87$, CR = 0.90, AVE = 0.69) and stress ($\alpha = 0.84$, CR = 0.8, AVE = 0.52) indicated validity of measures. Depression, anxiety and stress were positively and significantly correlated with Revised-TCS and Revised-CBI as expected. In structural analysis, depression anxiety and stress significantly influenced Revised-TCS ($\hat{\gamma}$Dep = 0.24, $p < 0.01$; $\hat{\gamma}$Anx = 0.33, $p < 0.01$; $\hat{\gamma}$Stress = 0.79, $p < 0.01$) and Revised-CBI ($\hat{\gamma}$ Dep = 0.27, $p < 0.01$; $\hat{\gamma}$Anx = 0.37, $p < 0.01$; $\hat{\gamma}$Stress = 0.81, $p < 0.01$).The materialism scale yielded satisfactory reliability and validity ($\alpha = 0.9$, CR = 0.89, AVE = 0.61). Although weak, a positive correlation was found between materialism and Revised-TCS and Revised-CBI. Materialism also significantly influenced Revised-TCS ($\hat{\gamma} = 0.05$, $p < 0.01$) and Revised-CBI ($\hat{\gamma} = 0.03$, $p < 0.01$) in structural analysis. In line with previous findings, results suggested that materialistic consumers are more likely to exhibit compulsive buying tendencies. Self-esteem scale showed strong reliability and

validity (α = 0.71, CR = 0.73, AVE = 0.5) and a negative correlation was found between self-esteem and both Revised-TCS and Revised-CBI. As expected, self-esteem also negatively influenced Revised-TCS (y̆ = -0.48, p < 0.01) and Revised-CBI (y̆ = -0.40, p < 0.01). Results complement previous findings that lesser the self-esteem of consumers, higher would be their compulsive buying tendencies.

Table 8.: Results of Regression Analysis

Structural Paths			Revised-TCS				Revised-CBI			
			y̆	S.E.	t-values	p-values	y̆	S.E.	t-values	p-values
Depression	→	**Revised-TCS/CBI**	0.24	0.01	4.09	***	0.27	0.02	5.64	***
Materialism	→	**Revised-TCS/CBI**	0.05	0.00	2.93	0.00	0.03	0.01	2.23	0.01
Anxiety	→	**Revised-TCS/CBI**	0.33	0.01	4.29	***	0.37	0.01	6.04	***
Stress	→	**Revised-TCS/CBI**	0.79	0.03	4.61	***	0.81	0.03	6.82	***
Self Esteem	→	**Revised-TCS/CBI**	-0.48	0.03	-4.51	***	-0.40	0.02	6.32	***
Revised-TCS/CBI	→	**Positive Feelings**	0.90	0.56	4.47	***	0.90	0.26	6.38	***
Revised-TCS/CBI	→	**Hiding Behavior**	0.45	0.45	4.44	***	0.45	0.21	6.29	***

Notes: *** p < 0.001

Positive feelings exhibited satisfactory reliability and validity (α = 0.77, CR = 0.75, AVE = 0.51). Both Revised-TCS and Revised-CBI positively correlated with positive feelings. TCS and CBI as predictors, have significant influence on positive feelings (y̆ TCS = 0.90, p < 0.01; y̆ CBI = 0.90, p < 0.01) indicating that compulsive consumers experience momentary positive feelings from the buying process. Hiding behavior provided excellent reliability and validity (α = 0.83, CR = 0.81, AVE = 0.64). Both Revised-TCS and Revised-CBI has positive correlation with hiding behavior and both significantly influenced hiding behavior (y̆ TCS = 0.45, p < 0.01; y̆ CBI = 0.45, p < 0.01). This indicates that compulsive buyers tend to hide their purchases and buying habits.

6.6. Prevalence Estimates

We estimated the current prevalence of compulsive buying behavior in shopping malls (Sample A = 2820) and university students (Sample B = 985), to identify consumers who suffer from compulsive buying disorder. Unlike previous studies, we employed newly developed universal cut off point criteria that classifies consumers into multiple categories on a continuum according to their level of compulsiveness (Edwards, 1993; Albanese, 1988; Moon & Attiq, 2018). This continuum draws a parallel between compulsive and addictive buying to identify varying levels of compulsiveness. These levels are presented in the following tables.

Table 9: Prevalence Estimates for Revised-TCS

			Shopping Mall Consumers (Sample A)						University Student (Sample B)					
			Male		**Female**		**Total**		**Male**		**Female**		**Total**	
Sr #	**Classification**	**Mean Score**	**862**		**543**		**1405**		**447**		**448**		**895**	
			N	%	N	%	N	%	N	%	N	%	N	%
1	**Normal**	1	12	40	18	60	**30**	**2.14**	13	76.5	4	23.5	**17**	**1.89**
2	**Recreational**	1.1-2	180	59.6	122	40.4	**302**	**21.5**	110	52.6	99	47.4	**209**	**23.4**
3	**Borderline**	2.1-3	332	64.1	186	35.9	**518**	**36.9**	196	50.8	192	49.2	**388**	**43.4**
4	**Compulsive**	3.1-4	257	62.8	152	37.2	**409**	**29.1**	119	46.8	135	53.1	**254**	**28.3**
5	**Addictive**	4.1-5	81	55.5	65	44.5	**146**	**10.4**	9	33.3	18	66.5	**27**	**3.02**

The Revised-TCS (Table 9) identified 29.1% (N= 409) compulsive buyers in sample A (N = 1405) and 28.3% (N= 254) compulsive buyers in sample B (N= 895). In both samples A and B, more women 37.2 % (N = 152) and 53.1% (N = 135) are classified as compulsive buyers. A higher percentage of around 40 % of consumers were borderline compulsive buyers in both samples. The Revised-CBI (Table 10) successfully classified 33.8% (N =479) consumers as compulsive buyers in Sample A (shopping mall consumers). In Sample B (university students) it categorized 29.7 % (N = 264) consumers as compulsive. Like the Revised-TCS, Revised-CBI also identified more women as compulsive buyers compared to men in both samples.

Table 10: Prevalence Estimates for Revised-CBI

			Shopping Mall Consumers (Sample A)						**University Student (Sample B)**					
			Male		**Female**		**Total**		**Male**		**Female**		**Total**	
Sr #	**Classification**	**Mean Score**	**872**		**543**		**1415**		**447**		**448**		**895**	
			N	%	N	%	N	%	N	%	N	%	N	%
1	**Normal**	1	72	64.3	40	35.7	**112**	**7.9**	16	66.7	8	33.3	**24**	**2.7**
2	**Recreational**	1.1-2	156	62.2	95	37.9	**251**	**17.7**	110	58.5	78	41.5	**188**	**21**
3	**Borderline**	2.1-3	250	57.5	185	42.5	**435**	**30.7**	176	49.4	180	50.6	**356**	**39.8**
4	**Compulsive**	3.1-4	280	58.5	199	41.5	**479**	**33.8**	115	43.6	149	56.4	**264**	**29.5**
5	**Addictive**	4.1-5	114	82.4	24	17.4	**138**	**9.7**	30	47.6	33	52.4	**63**	**7**

7. Discussion and Implications

In the present study, we tested the validity of original TSC and CBI, developed to measure CBB. The originally proposed factor structures for TCS and CBI could not be validated because American and Pakistani samples may interpret scales differently (Tommasi & Busonera, 2012). Hence, we explored new factor structures for both TCS and CBI. Consequently, we found a new two-factor structure for Revised-TSC and one-factor structure for Revised-CBI. Two dimensions of Revised-TCS, shopping anxiety, and irresistible spending contained items signifying restlessness that is associated with shopping and the compulsion to spend on undesired things respectively. Revised-TCS does not include items that relate to income that has been a significant point of criticism over the years (Ridgway et al., 2008; Tommasi & Busonera, 2012; Maraz et al., 2018). Furthermore, we developed a new classification scheme based on consumer's level compulsiveness on a continuum that ranges across the categories; normal/ non compulsive consumer (consumer, buying mainly out of necessity), recreational consumer (consumer who use buying occasionally to relieve stress), borderline compulsive consumers (somewhere in between compulsive and recreational buying tendencies), compulsive consumers (buy mostly to relieve anxiety) and addictive consumers (extreme buyers who suffer dysfunctions in life due to their buying). Since compulsive buying is believed to be a behavioral addiction (e.g., Maraz, Griffiths & Demetrovics, 2016; Davenport et al., 2012), we consider this classification more valid and relevant. Unlike previous dichotomous classification schemes, this scheme broadens our understanding of the levels of consumer's compulsiveness.

We also estimated the prevalence rate of compulsive buying behavior in shopping mall consumers and university students. On both scales, shopping mall consumers showed higher prevalence estimates (Revised-TCS = 29%, Revised-CBI = 34%) as compared to the prevalence rates estimated in university students (Revised-TCS= 28%, Revised-CBI= 29%). The findings are consistent with previous findings where consumers in shopping mall exhibited greater average compulsive tendencies as compared to any other sample (Weinstein et al., 2016; Moon & Attiq, 2018). The differences in prevalence rates calculated by both Revised-TCS and Revised-CBI are minimal, unlike previous findings where different instruments yield hugely different prevalence estimates (Maraz et al., 2016). This may be attributed to the theoretical, methodological, and cultural adjustments made in both Revised-TCS and Revised-CBI. For instance, both revised scales use the same cutoff points, classification scheme, and both measure current prevalence. Negligible differences that remain in prevalence estimates may be because of the sample, demographic, situational and personality differences but overall revised scales performed excellently. Both revised scales identified more women as compulsive buyers in both shopping mall consumers and university students.

Though the strength of the linear relationship was not very strong for either of the scales with gender, the findings still compliment the previous findings where women are more likely to be compulsive buyers (Neuner et al., 2005; Mueller et al., 2010; Otero-López & Villardefrancos, 2013; Orth, Robins & Widaman, 2012). Only Revised-TCS showed a significant relationship with income because some items of the scale discuss resources for buying things. Revised-CBI did not correlate with income that supports that compulsive buying is not an income dependent behavior and this argument is more relevant to the definitions of compulsive buying (Maraz et al., 2016; Otero-López & Villardefrancos, 2013). As far as the antecedents and consequences are concerned, both Revised-TCS and Revised-CBI correlated in theoretically hypnotized directions that signifies the external validity of the scales. Taken together, Revised-CBI performed marginally better with both samples in relation to estimating prevalence, correlation with demographics, antecedents and consequences, reliability and validity estimates and theoretical relevance.

8. Conclusion

CBB is a pathological consumer behavior that has severe harmful consequences for not only an individual but also for society. With the introduction of consumer culture in emerging economies, it has become a point of concern in such economies. This study aimed at validating two most widely used compulsive buying scales TCS and CBI and developing a new universal cutoff point classification for these scales. The theoretical, methodological and cultural adjustments along with employment of a universal and comprehensive classification scheme, lead us to refined compulsive buying scales that are more relevant to population and culture in developing economies.

9. Limitations and Future Research

Although this study has many strongholds, we acknowledge various limitations. First, the study was limited to shopping mall consumers and university students; future researches may include consumers from other fields of life, in particular, more representative general population. Second, we collected data only from fashion clothing consumers. Future studies may include other product categories for better generalizability of results. We only validated the two most widely used scales, whereas various other scales are also used to measure CBB. Future studies should also validate those scales in cultures other than the U.S. and developing economies. This study does not compare and contrast these scales directly to each other; therefore; this issue may be taken up in future researches. The classification scheme may also be used in future studies to understand compulsive buying in greater detail. The Revised TCS and CBI should be used in future studies for further psychometric validation.

References:

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM-5®).(5th ed.). Washington, DC American Psychiatric Pub.

Achtziger, A., Hubert, M., Kenning, P., Raab, G., & Reisch, L. (2015). Debt out of control: The links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, *49*, 141-149.

Albanese, P. J. (1988). The intimate relations of the consistent consumer: Psychoanalytic object relations theory applied to economics. *Psychological foundations of economic behavior*, 59-79.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, *16*(1), 74-94.

Baker, A. M., Moschis, G. P., Rigdon, E. E., & Fatt, C. K. (2016). Linking family structure to impulse-control and obsessive-compulsive buying. *Journal of Consumer Behaviour*, *15*(4), 291-302.

Baum, A. (1990). Stress, intrusive imagery, and chronic distress. *Health Psychology*, *9*(6), 653.

Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical considerations for using exploratory factor analysis in educational research. *Practical assessment, research & evaluation, 18(6), 1–13.*

Bittner, A., Goodwin, R. D., Wittchen, H. U., Beesdo, K., Höfler, M., & Lieb, R. (2004). What characteristics of primary anxiety disorders predict subsequent major depressive disorder?. *The Journal of clinical psychiatry*. *65*(5), 618-626

Black, D. W., Shaw, M., McCormick, B., Bayless, J. D., & Allen, J. (2012). Neuropsychological performance, impulsivity, ADHD symptoms, and novelty seeking in compulsive buying disorder. *Psychiatry Research*, *200*(2), 581-587.

Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.

Childs, D. (2006). *Britain since 1945: A political history*. Taylor & Francis.

Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research & evaluation*, *10*(7), 1-9.

Davenport, K., Houston, J. E., & Griffiths, M. D. (2012). Excessive eating and compulsive buying behaviors in women: An empirical pilot study examining reward sensitivity, anxiety, impulsivity, self-esteem and social desirability. *International Journal of Mental Health and Addiction*, *10*(4), 474-489.

Edwards, E. A. (1993). Development of a new scale for measuring compulsive buying behavior. *Financial counseling and planning*, *4*(1), 67-84.

Faber, R. J., & O'guinn, T. C. (1992). A clinical screener for compulsive buying. *Journal of Consumer Research*, *19*(3), 459-469.

Fornell, C., & Larcker, D. (1987). A second generation of multivariate analysis: Classification of methods and implications for marketing research. *Review of Marketing*, *1*, 407-450.

Gallagher, C. E., Watt, M. C., Weaver, A. D., & Murphy, K. A. (2017). "I fear, therefore, I shop!" exploring anxiety sensitivity in relation to compulsive buying. *Personality and Individual Differences*, *104*, 37-42.

Grougiou, V., Moschis, G., & Kapoutsis, I. (2015). Compulsive buying: the role of earlier-in-life events and experiences. *Journal of Consumer Marketing*, *32*(4), 278-289.

Guo, Z., & Cai, Y. (2011). Exploring the antecedents of compulsive buying tendency among adolescents in China and Thailand: a consumer socialization perspective. *African Journal of Business Management*, *5*(24), 10198.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range*
Planning, *46*(1-2), 1-12.

Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, *66*(3), 393-416.

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational research methods*, *1*(1), 104-121.

Hollander, E., & Allen, A. (2006). Is compulsive buying a real disorder, and is it really compulsive?. *American Journal of Psychiatry*, 163 (10), 1670–72

Horváth, C., Adigüzel, F., & Herk, H. V. (2013). Cultural aspects of compulsive buying in emerging and developed economies: a cross-cultural study in compulsive buying. *Organizations and Markets In Emerging Economies*. 4 (2). 8-24.

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Kukar-Kinney, M., Scheinbaum, A. C., & Schaefers, T. (2016). Compulsive buying in online daily deal settings: An investigation of motivations and contextual elements. *Journal of business research*, *69*(2), 691-699.

Kwak, H., Zinkhan, G. M., & Crask, M. R. (2003). Diagnostic screener for compulsive buying: Applications to the USA and South Korea. *Journal of Consumer Affairs*, *37*(1), 161-169.

Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). *SPSS for intermediate statistics: Use and interpretation*. Psychology Press.

Lejoyeux, M., Mathieu, K., Embouazza, H., Huet, F., & Lequen, V. (2007). Prevalence of compulsive buying among customers of a Parisian general store. *Comprehensive Psychiatry*, *48*(1), 42-46.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behavior research and therapy*, *33*(3), 335-343.

Maccarrone-Eaglen, A., & Schofield, P. (2017). Compulsive buying behavior: Re-evaluating its dimensions and screening. *Journal of Consumer Behavior*. *16*(5), 463-473.

Maraz, A., Eisinger, A., Hende, B., Urbán, R., Paksi, B., Kun, B., ... & Demetrovics, Z. (2015). Measuring compulsive buying behavior: psychometric validity of three different scales and prevalence in the general population and in shopping centers. *Psychiatry Research*, *225*(3), 326-334.

Maraz, A., Griffiths, M. D., & Demetrovics, Z. (2016). The prevalence of compulsive buying: a meta-analysis. *Addiction*, *111*(3), 408-419.

McElroy, S. L., Keck, P. E., Jr., Pope, H. G., Jr., Smith, J. M. R., & Srakowski, S. M. (1994). Compulsive buying: a report of 20 cases. *Journal of Clinical Psychiatry*, *55*, 242–248.

Moon, M. A., & Attiq, S. (2018). Compulsive buying behavior: antecedents, consequences and prevalence in shopping mall consumers of an emerging economy. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, *12*(2), 548-570.

Moon, M. A., Javaid, B., Kiran, M., Awan, H. M., & Farooq, A. (2018). Consumer perceptions of counterfeit clothing and apparel products attributes. *Marketing Intelligence & Planning*, *36*(7), 794-808.

Mueller, A., Mitchell, J. E., Crosby, R. D., Gefeller, O., Faber, R. J., Martin, A., ... & de Zwaan, M. (2010). Estimated prevalence of compulsive buying in Germany

and its association with sociodemographic characteristics and depressive symptoms. *Psychiatry research*, *180*(2), 137-142.

Neuner, M., Raab, G., & Reisch, L. A. (2005). Compulsive buying in maturing consumer societies: An empirical re-inquiry. *Journal of economic psychology*, *26*(4), 509-522.

Orth, U., Robins, R. W., & Widaman, K. F. (2012). Life-span development of self-esteem and its effects on important life outcomes. *Journal of personality and social psychology*, *102*(6), 1271-1288.

Otero-López, J. M., & Pol, E. V. (2013). Compulsive buying and the Five-Factor Model of personality: A facet analysis. *Personality and Individual Differences*, *55*(5), 585-590.

Otero-López, J. M., & Villardefrancos, E. (2013). Materialism and addictive buying in women: the mediating role of anxiety and depression. *Psychological Reports*, *113*(1), 328-344.

Richins, M. L. (2004). The material values scale: Measurement properties and development of a short form. *Journal of Consumer Research*, *31*(1), 209-219.

Ridgway, N. M., Kukar-Kinney, M., & Monroe, K. B. (2008). An expanded conceptualization and a new measure of compulsive buying. *Journal of Consumer Research*, *35*(4), 622-639.

Roberts, J. A., & Sepulveda M, C. J. (1999). Money attitudes and compulsive buying: an exploratory investigation of the emerging consumer culture in Mexico. *Journal of International Consumer Marketing*, *11*(4), 53-74.

Roberts, J. A., Manolis, C., & Pulling, C. (2014). Contingent self-esteem, self-presentational concerns, and compulsive buying. Psychology and Marketing, 31(2), 147–160.

Rosenberg, Morris (1965), *Society and the Adolescent Self-Image*, Princeton, NJ: Princeton University Press.

Suhr, D. D. (2006). *Exploratory or confirmatory factor analysis?* (pp. 1-17). Cary: SAS Institute.

Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA*. Thomson/Brooks/Cole.

Tommasi, M., & Busonera, A. (2012). Validation of three compulsive buying scales on an Italian sample. *Psychological Reports*, *111*(3), 831-844.

Villella, C., Martinotti, G., Di Nicola, M., Cassano, M., La Torre, G., Gliubizzi, M. D., ... & Conte, G. (2011). Behavioral addictions in adolescents and young adults: results from a prevalence study. *Journal of Gambling Studies*, *27*(2), 203-214.

Weinstein, A., Maraz, A., Griffiths, M. D., Lejoyeux, M., & Demetrovics, Z. (2016). Compulsive Buying—Features and Characteristics of Addiction. In Neuropathology of Drug Addictions and Substance Misuse (pp. 993-1007).

Zhao, H., Tian, W., & Xin, T. (2017). The Development and Validation of the Online Shopping Addiction Scale. *Frontiers in psychology*, *8*, 735. 10.3389/fpsyg.2017.00735

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