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Evaluating the Constructive or Destructive Role of PowerPoint in Accounting Education

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JEL Classification:
O14, Y20, P29

ABSTRACT

Objectives: With change in technology teaching methodology also changed and technology penetrates into the class rooms. The most commonly used computer aided teaching methodology in class rooms is PowerPoint presentation. It replaces the traditional method of teaching i.e. whiteboard and marker. This research focus to investigate the effect of PowerPoint presentation on student’ performance.

Methodology: We choose 282 students studying accounting courses in various universities of Multan, Pakistan. We used SPSS and Microsoft Excel to analyze the data.

Result: We found that PowerPoint has negative impact on the student’s performance. But on the other hand, students feel tiresome with traditional method of teaching. Students prefer to take quantitative courses via traditional method, and they prefer to take qualitative courses by PowerPoint presentation.

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1. Introduction

In the past many decades lectures on quantitative subjects were delivered on the white board, blackboard. With rapid change in technology, these methods are replaced slowly by modern methods of teaching like transparencies, PowerPoint slides, etc. Technology penetrates into the classrooms and become an important part of classroom (Thomas, 2002, p. 1). The use of computer in education increases and this leads to the utilization of ‘Microsoft Office’ package programs. It serves as a supporting tool in classrooms (Kahraman, Çevik, & Kodan, 2011).

The most common and highly used technology in classrooms to project information is from computer into the screen via Microsoft PowerPoint (McCannon & Morse, 1999). According to the Microsoft over thirty million presentations per day take-place worldwide, about 250 million computers in the world have PowerPoint software (Amare, 2006).

There are three basic reasons for the high usage of PowerPoint (PPT) in classrooms. The first reason is that there is high pressure on teachers for publications and administration. Due to this pressure they simplify their teaching methodology and put less effort and time on lecture preparation. The second reason is that professional publishers of these PPT slides facilitates and serve instructors by providing ready made slide presentation. The third reason is the appreciation from students who prefer the availability of lecture notes. They don’t put effort to make these notes. Furthermore, these students give high marks while evaluating the course and teaching methodology, so, they put pressure on instructors to make, distribute and use PPT slides in the classroom (Apperson, et al., 2006; Frey & Birnbaum, 2002; Gabriel, 2008; Harknett & Cobane, 1997; Nouri & Shahid, 2005; Nouri & Shahid, 2008; Jordan & Papp).

The concept of modern teaching methodology, specifically PPT is based on Dual coding theory formulated by Allan Paivio (1986). The assumption of this theory is that the learning efficiency can be enhanced if the information is presented by two different but supporting methods. One method encodes the verbal information like text and the other encodes the non-verbal information like visual or voice presentation. So, it become easier to remember that information which one can read and hear than those which is coded in only one channel (Akkoyunlu & Yılmaz, 2005; Selimoglu, & Arsoy, 2009). Edward Tufte (2003) has argument against use of PPT. He views that PPT spoil the quality and reliability of information. Moreover, New York Times published an article with title “PowerPoint Makes You Dumb” (Thomson, 2003) and Fortune 500 Company restricted the practice of PowerPoint in presentations (Numberg, 1999). Despite of all these arguments against PPT, this method is extensively adopted in educational institutions because of its benefits, ease and time saving.

PowerPoint presents information in an organized, attractive, easily remembered way to the audience (Boyce, 1999). Nouri & Shahid (2005) found that student’s attitude toward PPT presentation were positive. They also conclude that when PPT presentations are appropriately prepared, it affects the short term memory of students. Hashemi, Azizinezhad, & Farokhi, (2012) found that PPT have no impact on long term memory of students. Contrary to this, Rosenthal et al. (2003) compared classes using PowerPoint presentations with those that are teacher centered classes. Their results were based on students’ academic success. They found no significant difference between the two teaching methodologies.

Consequently, researches were conducted to dig out the effects of PPT method of teaching on student’s success and attitude. Some of these studies focus on the effectiveness of PowerPoint presentations in classes, in comparison with black/whiteboard and overhead projector use (Kahraman, Çevik, & Kodan, 2011). Rankin and Hoaas (2001) found PPT have no significant impact on student’s performance.
Moreno and Mayer (2000) found that PPT presentations had a negative effect on student performance. Bartsch & Coben (2003) reveals that PPT presentation has a negative effect on students’ performances. But on the other hand students state that they learn more in the courses taught with PowerPoint (Bartsch, Coben, 2003; Uz, Orhan, & Bilgic, 2010).

Many studies undertaken by researchers concludes that students believe by using PowerPoint in classrooms make easier for them to learn (Szabo, & Hastings, 2000; Mantei, 2000; Rankin, & Hoaas, 2001; Apperson, Laws, & Scepantsky, 2006; Beets, & Lobingier, 2001; Kahraman, Çevik, & Kodan, 2011). Literature showed that PPT make efficient use of class room time as compared to traditional way of teaching on such as whiteboard and transparencies (Mantei, 2000; Daniels, 1999). Students expresses that classes taught with PPT are more interesting because it include visual elements (O'Dwyer, 2008).

In a educational literature, there is common debate whether PowerPoint is useful to students and in what way it affects their performance. The question “how does powerpoint affect students?” remains unanswered. For this purpose, many research studies have been done in advanced countries and yield mixed results, however very few studies investigated in the developing countries like Pakistan. Hence, this study empirically test the impact of the PowerPoint presentation on students performance and attitude in Pakistan for filling the gap in literature.

The research objectives are to investigate:

1. The effect of the two teaching methods on resources understandability.
2. The effectiveness of the two teaching methods on the learning process.
3. Attitudes of the students towards the two diverse teaching methods used.
4. Preferences of the students for the two different teaching methods.
5. For gauging the impact of the two different teaching methods on students performance (i.e., grade).

2. Literature Review

Increase in number of admissions every year has brought changes in both administration and academic systems. Availability of technology has facilitated in various aspects, however. Quality in education in institutions is more inevitable now (Akdağ & Tok, 2008). Most of the faculty is now moving toward computer aided lectures instead of traditional teaching technique and have developed paperless classrooms (Navarro, 1998). Widely used PowerPoint presentations in the classrooms have become an emerging topic for researchers of various countries. Many scholarships have addressed the effectiveness of PowerPoint usage and contributed to literature. Some researches focused the effectiveness of PowerPoint presentations on the attitude of students while, other focused the difference of success of the students in relation to the lectures delivering teaching methodology (Selimoglu & Arsoy 2009).

A PowerPoint presentation is a complicated mix up of text and graphics having advanced software features and real-time interaction with the audience (Farkas, 2008). PowerPoint method has both advocates and opponents. Daniels (1999) and Mantei (2000) argued that PowerPoint is considered more beneficial as it is an efficient and time saving strategy as compared to writing on boards. By using PowerPoint slides, time of writing on the board can be saved and the lecture flows in well way. The key characteristic of PowerPoint is that it offers complete base for presentation. It gives order to the lecture (Hlynka & Mason, 1998) and makes it more convenient for lecturer to present brief summaries (Lowry, 1999). It might be effective on the extent of learning of students from lectures delivered. It depends upon the understandability of the material conveyed (Miller & McCown, 1986) and students’ extent of retention of that material (Garner, 1992 and Susskind 2005). Furthermore, PowerPoint presentations have another advantage of visual attraction due to containing strong colors, designing of text, animated
diagrams and ease to edit and updating of slides according to requirement. Thus they provide substantial energy and time savings (Lowry, 1999; El Khoury and Mattar 2012). Cited in Boyce (1999) that computer assisted technique enable more effective learning by facilitating the understanding of accounting interrelationships and accounting concepts (Holley, 1995; Stewart & Howard, 1988; Borthick & Clark, 1986, 1987; Helmi, 1986; Wu, 1984; Bhaskar, 1982; Throckmorton & Talbot, 1978; Hawkins & Allen, 1967).

Evan’s (1998) gave empirical evidence of students’ better performance by learning through PowerPoint slides. He tested by conducting pilot study of 161 students taking a General Psychology course found that students performed better (roughly 4 percentage points) with PowerPoint presentations as opposed to lectures with overhead transparencies, and those students liked PowerPoint better than transparencies (Amar, 2006). On the other hand, researches have also shown weaker support for this particular teaching style. As Pippert and Moore (1999) argued by using PowerPoint, students displayed some dissatisfactory behavior about the interaction of classroom. Studies have also refuted that PowerPoint decreases the interaction between teacher and students and often makes the students sleepy due to lack of concentration (Parks, 1999). It depersonalizes the class environment (Sammons, 1995; Bawaneh, 2011).

One study showed a decrease in performance of students when the instructor switched from transparencies to PowerPoint (Bartlett, Cheng and Strough, 2000; Bartsch and Cobern, 2003). For better performance of students, graphics used I presentation must be relevant and explaining the concept (Bartsch & Cobern, 2003; Holzl, 1997; Mayer, 2001; Seaman, 1998). According to Bartsch & Cobern (2003), inclusion of irrelevant graphics in slides caused a decrease in performance of students on quizzes Apperson, Laws and Scapansky 2008). Steven Strand an academic administrator from University of California at Los Angeles in the life sciencescore curriculum program shared his experience, according to him, when he started sharing and uploading PPT on the Web, attendance of the students dropped by 20% (Young, 2004; El Khoury and Mattar, 2012). Şengün and Turan (2004) identified that students are significantly inclind to PowerPoint presentations considering it more suitable for physical geography subjects within geographical discipline (Can, Karaca, Akyel, and Demirci, 2012). Amare (2006) stated that performance of students was higher who taught by using traditional methodology, although some of the students emphasized on the use of PowerPoint. The same results found by Sosin et al., 2004; Bawaneh, 2011).

Some research studies (e.g. Apperson et al. (2008), Albrecht & Sach (2000) and Perry & Perry 1998), researchers concluded that delivering accounting lecture through multimedia e.g. PowerPoint increased students’ interest and motivation for the course (Can, Karaca, Akyel, and Demirci, 2012). PowerPoint motivates the students to attend the lessons (James vd 2006: 387, Sugahara and Boland 2006: 396, Bawaneh, 2011). Savoy et al. (2009) identified that preference for lecturing technique varies by the nature of the course. In condition where the course contains complex graphs, animations and figures, the students preferred lecturing through PowerPoint presentation and considered it advantageous. On the other hand, it was demonstrated the preference of students for the traditional method and for PowerPoint slides in the situation where the course contains numerical information. One empirical study conducted by managerial accounting course given to two groups by PowerPoint and on the blackboard. Results showed PowerPoint presentations developed positive attitude of students towards the lecturer and the lesson (Selimoglu and Arsoy 2009).

Çankaya & Dinç (2009) found that the students who were taught through PowerPoint were more successful in academic performance than the students who were lectured by classical method. Additionally, when students’ perception regarding to accounting course was analyzed, it uncovered the students who were taught by PowerPoint felt that course more attractive, enjoyable and relaxing. They found it more beneficial. The students who were lectured in the classical manner, found the course more
tedious, boring and more tiresome than the other group (Can, Karaca, Akyel and Demirci 2012).

Summarizing above literature, mostly existent studies showed positive attitude of students’ towards PowerPoint opposing to traditional teaching method, through no considerable difference in performance (El Khoury, and Mattar, 2012). Research regarding the effectiveness of lecturing through PowerPoint on academic performance has demonstrated mixed results. Some scholars found it increases performance of students (Mantei, 2000; Kask, 2000, female students; Lowry, 1999; Szabo and Hastings, 2000, Exp. 2) whereas others have found no effect (Daniels, 1999; Kask, 2000, male students; Rankin & Hoaas, 2001; Szabo & Hastings, 2000, Exps. 1 & 3; Boyce, 1999). Key objective of this paper is to explore the differences in the accounting students performance and attitude toward the two different teaching methods i.e. PowerPoint presentations and traditional writing on board technique.

### Conceptual Model

![Conceptual Model]

### 3. Methodology

This is quantitative research based on a concept of effectiveness of two different teaching methods i.e. Traditional (on the board) and PowerPoint (through multimedia). The attitude of students toward these two teaching methodologies is measured by questionnaire based on items related to these two styles. Scale was adopted from previous study (El Khoury, and Mattar, 2012). Five-point Likert scale is used from 1 to 5, going from strongly disagree to strongly agree and by taking 3 as a neutral option. Data was analyzed by using SPSS version 20 and Microsoft Excel.

We have taken three courses of accounting to study the effect of two different styles, which are financial accounting, cost accounting and managerial accounting. Data is collected from the students of various universities of Multan. Through questionnaire we tried to ask them their preference to study these courses. And by which method they are more convenient.

We have taken the sample of 282 students. We are intending to do analysis of our data through SPSS. We have adopted cross sectional design, under which at the end of questionnaire we have asked the students their GPAs in three courses and overall GPA. We also have asked them their preference between the two teaching styles by giving the two options, and the methodology adopted by their instructor. Hence we adopted purposive sampling technique.
Our research questions are:

1. Is there any difference between the impacts of the two teaching methods on materials understandability?
2. How much is the effectiveness of the two teaching methods on the teaching/learning process?
3. What is attitudes of students towards the two teaching methods applied?
4. What is preference of students for the two teaching methods?
5. What is the effect of the two teaching methods on students’ performance (i.e., grade)?

4. Analysis

Table 1 presents the demographic characteristics of sample. Out of 282, 59.9% were male, while 40.1% were female.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
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<tr>
<td>Male</td>
<td>169</td>
<td>59.9%</td>
</tr>
<tr>
<td>Female</td>
<td>113</td>
<td>40.1%</td>
</tr>
<tr>
<td>Total</td>
<td>282</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2 (a) shows that 34% of students in sample study financial accounting with PowerPoint, and remaining 66% study with whiteboard and board marker.

<table>
<thead>
<tr>
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<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>66%</td>
</tr>
<tr>
<td>PowerPoint</td>
<td>34%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2 (b) shows that 21.6% of students in sample study cost accounting with PowerPoint, and remaining 78.4% study with traditional method.

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerPoint</td>
<td>21.6%</td>
</tr>
<tr>
<td>Traditional</td>
<td>78.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Reliability Analysis

Chronbach’s alpha was use to measure the reliability of the test. This study used chronbach’ alpha to evaluate the internal consistency of questionnaire administered to students. Alpha values range from 0 to 1. George and Mallery (2003) provide the following rules of thumb:“Chronbach’s alpha > .9 – Excellent, Chronbach’s alpha > .8 – Good, Chronbach’s alpha > .7 – Acceptable, Chronbach’s alpha > .6 – Questionable, Chronbach’s alpha > .5 – Poor, and Chronbach’s alpha < .5 – Unacceptable” (p. 231)[16]. Alpha value of traditional method was found to be .889, which reflects high questionnaire internal consistency. Alpha value of traditional method was found to be .891, which high questionnaire internal consistency ( Appendix A)
Factor Analysis

On different statements describing traditional teaching methodology factor analysis was conducted. Table 3(a) in appendix A shows that material understandability was highly correlated with question “TM makes materials clear”. The second factor effectiveness of teaching and learning process was highly correlated with “TM challenges me to think on topic”. The third factor entertainment was highly correlated with” TM is entertaining (using board, discussion)”. Similarly, the fourth factor dullness was highly correlated with “TM is tiresome”. KMO was measure of sampling adequacy its value was 0.861. Bartlett's Test of Sphericity also shows significance.

Table 3(b) shows the variance explained was 57.68%. We can use these four components to reduce the complexity of the data with 42.32% loss of information.

On different statements describing modern teaching methodology i.e. PowerPoint, factor analysis was conducted. Table 4(a) shows that material understandability was highly correlated with question “PPT makes materials better understood”. The second factor effectiveness of teaching and learning process was highly correlated with “PPT is more efficient in problem solving”. The third factor entertainment is highly correlated with” PPT makes materials enjoyable (as I understand more easily). Similarly, the fourth factor dullness is highly correlated with “PPT is tiresome”. The sampling adequacy measure KMO shows value of 0.873. Bartlett's Test of Sphericity shows significance with value “zero”. Table 4(b) shows the variance explained was 59.405%. We can use these four components to reduce the complexity of the data with 40.595% loss of information.

Mean and t-test

Means calculated for two different groups of data i.e. “Traditional” and “PowerPoint”. This method was used to check that, what is the impact of teaching methodology on student’s material understanding, assess effectiveness of the teaching/learning process, and whether the attitude toward it is positive or negative.

Table 5 in appendix A shows that all the statements under factor one (material understandability), show significant variance for “PPT” and “Traditional” method of teaching. In factor two(Effectiveness of the Teaching/Learning process) five statements –“ TM makes note taking easier”, “TM challenges me to think on topic”, “TM stimulates critical thinking”, “TM allows greater interaction with topic”, and “TM helps me to learn” did not show significance variance forTraditional and PPT method of teaching”. In factor three which is entertainment, all statements shoe significance variance for “PPT” and “Traditional” method of teaching”. In fourth factor (Dullness), one statement “TM is tiresome” don’t dhow significance for “TM is tiresome”.

Student’s preferences

Students were asked about their preferences of teaching methodology in qualitative as well as quantitative courses. They were also asked about their preferences of teaching methodology of financial and cost accounting. Table 7 shows that 60.6% of students choose qualitative courses to be taught by PowerPoint, and 39.4% students prefer traditional method of teaching for qualitative courses.

<table>
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<th>Table 7 : Preferences of qualitative course teaching method</th>
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<tr>
<td>Percent</td>
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<tr>
<td>----------------</td>
</tr>
<tr>
<td>Traditional</td>
</tr>
<tr>
<td>39.4%</td>
</tr>
</tbody>
</table>
Table 6 shows that 72% of respondents prefer studying quantitative courses by traditional method, while 28% prefer PowerPoint.

<table>
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<tr>
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<td>72%</td>
</tr>
<tr>
<td>PowerPoint</td>
<td>28%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 8 and 9 show the students preferences in financial and cost accounting. Table 8 shows that 65.3% students of financial accounting and 73.5% students of cost accounting prefer traditional method of teaching while only 34.7% students of financial accounting and 26.5% students of cost accounting prefer PowerPoint method of teaching.

<table>
<thead>
<tr>
<th>Method</th>
<th>Percent</th>
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<tr>
<td>Traditional</td>
<td>65.3%</td>
</tr>
<tr>
<td>PowerPoint</td>
<td>34.7%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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<table>
<thead>
<tr>
<th>Method</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Traditional</td>
<td>73.5%</td>
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<tr>
<td>PowerPoint</td>
<td>26.5%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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<table>
<thead>
<tr>
<th>Method</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Traditional</td>
<td>69.9%</td>
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<tr>
<td>PowerPoint</td>
<td>30.1%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</table>

Effectiveness

Table 10 in appendix A shows the effectiveness of two teaching methodologies in each of three courses. The table shows that most students indicate that teaching methodology adopted is satisfactory.

Regression

Regression was run to measure the impact of independent variables—students final grade in financial accounting, teaching methodology, gender, overall GPA, and students’ final grade in cost accounting.
Teaching methodology and gender are dummy variables. Table 10 shows the regression when taking GPA cost accounting as independent variable.

<table>
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<th>Table 12: Regression</th>
<th>Standardized regression coefficients B</th>
<th>Standard error</th>
<th>t</th>
<th>Sig.</th>
<th>R square</th>
<th>Adjusted R</th>
<th>F-stat</th>
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<td>0.03</td>
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<td>-2.41</td>
<td>0.02</td>
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<tr>
<td>Teaching methodology</td>
<td>0.34</td>
<td>0.16</td>
<td>2.08</td>
<td>0.04</td>
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<td>0.06</td>
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<td>GP</td>
<td>0.07</td>
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<td>0.84</td>
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</table>

The table 12 shows positive value of coefficient of teaching methodology. This positive value shows that PPT has positive impact on student’s performance. The results also show that, teaching methodology and gender correlate with student’s performance. The value of adjusted r square shows that dependent variables explained only 2% of variance in student’s performance.

<table>
<thead>
<tr>
<th>Table 13: Regression</th>
<th>Standardized regression coefficients B</th>
<th>Standard error</th>
<th>t</th>
<th>Sig.</th>
<th>R square</th>
<th>Adjusted R</th>
<th>F-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.05</td>
<td>0.27</td>
<td>7.81</td>
<td>0.00</td>
<td>0.17</td>
<td>0.16</td>
<td>13.99</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.05</td>
<td>0.11</td>
<td>-0.49</td>
<td>0.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching methodology</td>
<td>-0.00</td>
<td>0.12</td>
<td>-0.02</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost accounting GP</td>
<td>0.07</td>
<td>0.02</td>
<td>3.36</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>0.39</td>
<td>0.06</td>
<td>6.46</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13 shows the regression when taking GPA managerial accounting as independent variable. The table shows negative value of coefficient of teaching methodology. This negative value shows that PPT has negative impact on student’s performance. The results also show that, GPA and teaching methodology correlate with student’s performance. The value of adjusted r square shows that dependent variables explained 16% of variance in student’s performance.

5. Results And Conclusion

The responses of students show that traditional method has greater material understandability as compare to PPT. The finding of this study contradicts to Nouri and Shahid (2005), which shows more
understanding with PPT. The results shows that using traditional method makes lectures more organized, easier to understand, more clearer, concise, and need less effort at home. The results supported by previous research conducted by Hashmezadeh and Wilson (2007). The finding of Hashmezadeh and Wilson was same as traditional method of teaching make material easy to understand. Moreover, students when taught with PowerPoint spend less time in notes taking as they can get material discussed in class. The instructor can cover more content in less time, this results in lower level of material understandability. On the other hand, when students are taught with white board they have more time to analyze and decide which note to note. They can better understand material in class due to low speed of instructor and pauses during the teacher write on board. The results of this study also prove that less effort is needed at home when taught with traditional method of teaching in class. The results also shows that students have perception that when instructor use PPT in class they put less effort and this reduces the student’s attention and interest in class (table 5-b).

The second factor of effectiveness of teaching/learning process shows significance difference between two teaching styles except four statements as mentioned in table 5. The results of this study reveal that there is a significant difference in student’s attitude toward lectures delivered using traditional methodology. Students perceive that in traditional way there is a room for participation while, in PPT, the lecture was preplanned and student hesitate to interrupt the teacher. Hlynka and Mason (1998) mention that there is less interaction between student and teacher due to sequence of slides. Parks (1999) concludes that the presentation via PPT make students in U.S Universities to sleep, this may be due to dim light. While traditional method give chance to students as well as to teachers to discuss the material and interact with each other. This results in more student engagement in class. Pippert and Moore (1999) also supported that the use of PPT in class might lower the quality of interaction between teacher and student.

The third and fourth factor is related to the student’s attitude. These are entertainment and dullness. The results of this study suggest that there is a significant difference between traditional method and PowerPoint presentation. Students found traditional method as more entertaining as it encourage class participation and on the other hand PPT makes students sleep in class. Earlier studies found opposite results. They found PPT as more entertaining method of teaching (Butler and Mautz 1996; Nouri and Shahid, 2005).

Students perceive PPT as more boring and tiresome. They perceive that the material in slides is important and they don’t pay attention to what teacher discuss in class as they can get slides. These factors make PPT more boring and tiresome. The results reveal that traditional method is more tiresome as students have to be attentive in class and participate during lecture. Students have to make notes during class as they cannot get any material. They also filter the data during class as which material, example is important and make it easier at home to understand the concept at home. So, in traditional lecture students perform two functions. First, understanding material and concept delivered by instructor. And second, recording material by filtering the data because no hard or soft copies for the material distributed by the teacher.

The study shows that students prefer traditional method of teaching for quantitative courses in general and specifically accounting courses. While the prefer PPT for qualitative courses such as management, marketing, organization behavior etc.

To measure the impact on student’s performance, regression was estimated by including all the dependent variables. The results shows that for the course of cost accounting PPT has a positive impact on student’s performance but for the course of managerial accounting PPT has negative impact on student’s performance. The results also shows that gender and teaching methodology correlates with the
student’s performance in cost accounting course, but on the other hand overall GPA and teaching methodology correlates with student’s performance. So, it proves that teaching methodology affects the students’ performance.

**Implications, Future Research Directions And Limitations**

This research helps instructors to understand the attitude of students and effectiveness of teaching methodology. They can avoid weaknesses of the medium to convey more effectively. This study is conducted in city of Multan Pakistan, on the students of private and government universities located there. It is generalizable in the context of southern Punjab. While more exploratory research can be done by taking sample of universities of upper Punjab and other provinces. We explored the effectiveness of the two styles in accounting discipline by taking data specifically on three courses of the accounting. Same objective can be applied for analyzing impacts in other disciplines i.e. qualitative and other quantitative courses. Broad level theoretical literature exists and differences can be analyzed between the two approaches whether lecturer can be benefited by the advantage of time saving, effective graphical representation and conciseness through the PowerPoint medium.

**References**


Jordan, L. A., & Papp, R. PowerPoint®: It’s not “Yes” or “No”–it’s “When” and “How”.


Kozub, R. M. (2010). Student Attitude Towards And Use Of Powerpoint® Slides As Study Guides In


performance: a research in Anadolu University. *Turkish Online Journal of Distance Education- TOJDE, 10 (1)*, 114-129.


### Appendix A

#### Table 3 (a) : Rotated Component Matrix (traditional method)

<table>
<thead>
<tr>
<th>Material Understandability</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM makes materials clear</td>
<td>.785</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM makes materials easy to follow</td>
<td>.784</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM makes materials better understood</td>
<td>.737</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM makes materials presented in a way I understand better</td>
<td>.713</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM makes materials quickly understood and needs less efforts at home</td>
<td>.669</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM makes materials more organized</td>
<td>.657</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM is more efficient with explaining theories</td>
<td>.614</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM makes materials concise</td>
<td>.580</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of the Teaching/Learning process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM challenges me to think on topic</td>
<td>.722</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM stimulates critical thinking</td>
<td>.654</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM is more efficient in problem solving by using board</td>
<td>.647</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM leads to more concentration on topic</td>
<td>.608</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM allows greater interaction with topic</td>
<td>.579</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM encourages class participation</td>
<td>.563</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TM helps me to learn | .462 |

**Entertainment**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TM is entertaining (using board, discussion)</td>
<td></td>
<td>.818</td>
</tr>
<tr>
<td>TM makes materials enjoyable (as I understand more easily)</td>
<td></td>
<td>.799</td>
</tr>
<tr>
<td>TM makes materials more interesting</td>
<td></td>
<td>.787</td>
</tr>
</tbody>
</table>

**Dullness**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TM is tiresome</td>
<td></td>
</tr>
<tr>
<td>TM is boring</td>
<td>.857</td>
</tr>
</tbody>
</table>

KMO=0.861, Bartlett's Test of Sphericity Sig=0.000

<table>
<thead>
<tr>
<th>Component</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>6.785</td>
<td>33.925</td>
</tr>
<tr>
<td>2</td>
<td>1.846</td>
<td>9.230</td>
</tr>
<tr>
<td>3</td>
<td>1.679</td>
<td>8.393</td>
</tr>
<tr>
<td>4</td>
<td>1.228</td>
<td>6.139</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness of the Teaching/Learning process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT is more efficient in problem solving.</td>
<td>.747</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT allows greater interaction with topic</td>
<td>.732</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT leads to more concentration on topic</td>
<td>.675</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT stimulates critical thinking</td>
<td>.610</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT challenges me to think on topic</td>
<td>.606</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT helps me to learn</td>
<td>.542</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT encourages class participation</td>
<td>.507</td>
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<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Material Understandability</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPT makes materials better understood</td>
<td>.755</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT makes materials quickly understood and needs less efforts at home</td>
<td>.682</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT makes materials clear</td>
<td>.613</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT makes materials concise</td>
<td>.605</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT makes materials presented in a way I understand better</td>
<td>.602</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT makes materials more organized</td>
<td>.591</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPT is more efficient with explaining theories</td>
<td>.530</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Entertainment**
PPT makes materials enjoyable (as I understand more easily with help of slides, diagrams etc) .842
PPT is entertaining (using slides, diagrams, graphs) .780
PPT makes materials more interesting .762

Dullness
PPT is tiresome .923
PPT is boring .891
KMO=0.873, Bartlett’s Test of Sphericity Sig=0.000

Table 4 (b): Total Variance explained for the factors extracted (PowerPoint)

<table>
<thead>
<tr>
<th>Component</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>7.392</td>
<td>36.960</td>
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<tr>
<td>2</td>
<td>2.069</td>
<td>10.347</td>
</tr>
<tr>
<td>3</td>
<td>1.269</td>
<td>6.346</td>
</tr>
<tr>
<td>4</td>
<td>1.150</td>
<td>5.752</td>
</tr>
</tbody>
</table>

Table 5: Means, standard deviation and sig. for the different statements describing the students’ evaluation for the two different teaching methodologies: PPT and Traditional

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>PPT Set#1 (n=282)</th>
<th>Traditional Set#1 (n=282)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>TM is more efficient with explaining theories</td>
<td>3.53</td>
<td>1.19</td>
<td>3.31</td>
<td>1.22</td>
</tr>
<tr>
<td>TM makes materials presented in a way I understand better</td>
<td>3.60</td>
<td>1.07</td>
<td>3.33</td>
<td>1.09</td>
</tr>
<tr>
<td>TM makes materials concise</td>
<td>3.79</td>
<td>1.02</td>
<td>3.12</td>
<td>1.07</td>
</tr>
<tr>
<td>TM makes materials easy to follow</td>
<td>3.91</td>
<td>1.08</td>
<td>3.50</td>
<td>1.11</td>
</tr>
<tr>
<td>TM makes materials clear</td>
<td>3.88</td>
<td>1.12</td>
<td>3.52</td>
<td>1.13</td>
</tr>
<tr>
<td>TM makes materials more organized</td>
<td>3.81</td>
<td>1.12</td>
<td>3.20</td>
<td>1.22</td>
</tr>
<tr>
<td>TM makes materials better understood</td>
<td>3.67</td>
<td>1.09</td>
<td>3.32</td>
<td>1.20</td>
</tr>
<tr>
<td>TM makes materials quickly understood and needs less efforts at home</td>
<td>3.59</td>
<td>1.19</td>
<td>3.23</td>
<td>1.27</td>
</tr>
<tr>
<td>Factor 2</td>
<td>TM makes note taking easier</td>
<td>3.43</td>
<td>1.19</td>
<td>3.34</td>
</tr>
<tr>
<td>Factor</td>
<td>Statement</td>
<td>Mean</td>
<td>Standard Deviation</td>
<td>PPT Set#1 (n=282)</td>
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<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
<td>------</td>
<td>-------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>3</td>
<td>TM encourages class participation</td>
<td>3.59</td>
<td>1.08</td>
<td>3.35</td>
</tr>
<tr>
<td>3</td>
<td>TM challenges me to think on topic</td>
<td>3.60</td>
<td>1.16</td>
<td>3.52</td>
</tr>
<tr>
<td>3</td>
<td>TM leads to more concentration on topic</td>
<td>3.69</td>
<td>1.11</td>
<td>3.45</td>
</tr>
<tr>
<td>3</td>
<td>TM stimulates critical thinking</td>
<td>3.33</td>
<td>1.13</td>
<td>3.31</td>
</tr>
<tr>
<td>3</td>
<td>TM is more efficient in problem solving by using board</td>
<td>3.30</td>
<td>1.13</td>
<td>3.73</td>
</tr>
<tr>
<td>3</td>
<td>TM allows greater interaction with topic</td>
<td>3.49</td>
<td>1.07</td>
<td>3.66</td>
</tr>
<tr>
<td>3</td>
<td>TM helps me to learn</td>
<td>3.62</td>
<td>1.15</td>
<td>3.71</td>
</tr>
<tr>
<td>4</td>
<td>TM is entertaining (using board, discussion)</td>
<td>3.99</td>
<td>1.02</td>
<td>3.27</td>
</tr>
<tr>
<td>4</td>
<td>TM makes materials enjoyable (as I understand more easily)</td>
<td>3.94</td>
<td>1.12</td>
<td>3.27</td>
</tr>
<tr>
<td>4</td>
<td>TM makes materials more interesting</td>
<td>3.98</td>
<td>1.01</td>
<td>3.28</td>
</tr>
<tr>
<td>4</td>
<td>TM is tiresome</td>
<td>3.18</td>
<td>1.24</td>
<td>3.02</td>
</tr>
<tr>
<td>4</td>
<td>TM is boring</td>
<td>3.28</td>
<td>1.33</td>
<td>3.06</td>
</tr>
</tbody>
</table>

Table 5(b)

<table>
<thead>
<tr>
<th>PPT Set#1 (n=282)</th>
<th>Traditional Set#1 (n=282)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard deviation</td>
<td>Standard deviation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This method enables the instructor to put less effort in class room</td>
<td>3.83</td>
<td>1.11</td>
<td>2.91</td>
</tr>
</tbody>
</table>

Table 11

<table>
<thead>
<tr>
<th>Method Adopted</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Satisfactory</th>
<th>Less than Satisfactory</th>
<th>Poor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power-Point</td>
<td>%age within effectiveness of Financial Accounting Teaching Methodology</td>
<td>34%</td>
<td>3.1%</td>
<td>15.6%</td>
<td>47.9%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Traditional</td>
<td>%age within effectiveness of</td>
<td>66%</td>
<td>17.8%</td>
<td>19.3%</td>
<td>41.4%</td>
<td>16.1%</td>
</tr>
<tr>
<td></td>
<td>Financial Accounting Teaching Methodology</td>
<td>Power-Point</td>
<td>Tradit-ional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>-------------</td>
<td>--------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost Accounting</td>
<td>%age within effectiveness of Cost Accounting Teaching</td>
<td>21.7%</td>
<td>0%</td>
<td>23%</td>
<td>44.3%</td>
<td>18%</td>
</tr>
<tr>
<td>Tradit-ional</td>
<td>%age within effectiveness of Cost Accounting Teaching</td>
<td>78.3%</td>
<td>11.3%</td>
<td>28.5%</td>
<td>41.2%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Managerial Accounting</td>
<td>%age within effectiveness of Managerial Accounting Teaching Methodology</td>
<td>26.6%</td>
<td>13.7%</td>
<td>16.5%</td>
<td>41.1%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Tradit-ional</td>
<td>%age within effectiveness of Managerial Accounting Teaching Methodology</td>
<td>73.4%</td>
<td>15.9%</td>
<td>18.8%</td>
<td>49.9%</td>
<td>12%</td>
</tr>
</tbody>
</table>
Impact of Firm’s Capital Expenditure on Working Capital Management: An Empirical Study across Industries in Pakistan

1Muhammad Aamir, 2Syed Zulfiqar Ali Shah

1Assistant Professor, Bahauddin Zakariya University Multan Pakistan. maamirbzu@yahoo.com
2International Islamic University, Islamabad Pakistan. zulfiqar.shah@gmail.com

ARTICLEDETAILS

ABSTRACT

Various researchers have studied the effect of capital expenditure on management of working capital. This paper aims to analyze the effect of capital expenditure in the light of the fixed effect model on 96 listed companies with respect to working capital management. Data related to the specific time period of 2007-2010 has been focused. The impact of different expenditures like capital expenditure, finance expenditure and operating expenditure on working capital has been analyzed. In this connection, keeping in mind nature of the variables of the study, Net Liquidity Balance (NLB) and Working Capital Requirement (WCR) has been applied as a proxy of working capital management. Then six different hypotheses were performed in two different sets. In the first set, we examine the effect of capital expenditure, financial expenditure and operating expenditure on Net Liquidity Balance. In the second set, we study the effect of capital expenditures, financial expenditures and operating expenditures on Working Capital Requirement. Capital expenditure has the insignificant relationship with Working Capital Requirement and Net Liquidity Balance. Operating expense has the significant negative relationship with Net Liquidity Balance and significant positive relationship with Working Capital Requirement. Finance expense has the significant negative relationship with Net Liquidity Balance and significant positive relationship with Working Capital Requirement.

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Keywords

Capital Expenditures
Working Capital Management
Net Liquidity Balance
Working Capital Requirement

JEL Classification:

D24, D29

1. Introduction
In the arena of corporate finance, decisions related to working capital management, capital budgeting and capital structure are very important. Working capital management is considered a pivotal part of corporate finance and has the impact on the financial position of a firm (Van Horne, 1977). Due to several reasons, the efficient management of working capital is considered as a main apprehension of the finance administrator. The firms with sufficient liquid assets can conveniently result in the low profit on the investment of a company. The maintenance of insufficient current assets leads to shortages of funds. Due to this, firm faces problems in daily routine operations (Horne and Wachowicz, 2004). Because of the efficient management of current assets and liabilities, it minimizes the risk of an inability to cope outstanding short-term liabilities and also refrain unnecessary investment in these assets (Eljelly, 2004). The companies with efficient management of working capital can minimize their reliance on external financial assistance. In addition, the efficient management of working capital can reduce its costs of external financing. Besides, effective working capital management leads to reduced losses of a firm. Ultimately, inexpensive financing can be expected from shareholders and financial institutes (Autukaite and Molay, 2011).

The basic purpose of efficient management of working capital is to retain a balance among all components of working capital. It can be safely said that the success of any business dominantly relies on the potential of managers to efficiently manage components of working capital (Filbeck and Krueger, 2005). Whereas companies could minimize their costs as well as, they can also enhance the volume of funding on hand for extended projects by reducing the ratio of investment which is linked to the liquid assets. In order to achieve maximum positive results, managers spend a huge amount of time to determine the optimal level of different components of working capital (Lamberson, 1995). At a certain point when a balance is acquired between risk and efficiency, such level is considered as the optimal level of working capital. It demands consistent evaluation to retain the optimal point of several units of working capital.

In today’s tricky cost-effective climate, companies are searching for the latest ways to arouse expansion, advance performance and minimize the chances of threat. The funds, which are bound in working capital, could be known hidden funds. These funds could be utilized for further growth. The solvency of any firm is dependent on the efficient and proper management of working capital. So, the financial manger will react speedily and accurately to unexpected changes. Usually, this area is ignored by many organizations. The management of working capital is dependent on different factors such as business policy, type of industry. Because of this reason, different companies manage the working capital differently. For the efficient and effective management of working capital, this is necessary for the firm to be aware of different factors. Though there are companies which are trying to the proper management of working capital as these companies don’t know enough regarding the determinants of working capital.

The aim of the paper is to examine the effect of capital expenditure on the management of working capital. The particular purposes are to

1. To investigate the connection between working capital and capital expense.
2. To investigate the connection between the type of expense and the working capital.
3. To study the effect of dissimilar factors influencing the working capital.

The significance of this study is to develop the knowledge regarding the underlying forces of working capital. The inability of the firm to recognize different factors and the maintenance of inadequate working capital will create different financial problems. The significance of this study is to increase the adequate understanding of the various underlying forces of working capital.
2. Literature review

The management of working capital is the administration of liquid assets and liabilities in this way that liabilities are paid and on the other hand fixed assets are appropriately serviced (Osisioma, 1997). Efficient management of working capital makes certain a suitable association between the various parts of a firm’s current asset and liabilities so as to assure adequacy of the capital (Osisioma, 1997). Efficient management of working capital must assure the availability of every part of the working capital in a proper manner and also minimize the reliance of firm on external sources by reducing the proportion of risk. On the contrary, the firm’s success is dependent upon the determination of capital expenditure amount. Because the extent and effectiveness of capital expenditure decisions explain the future worth of the company, so the accurate capital expenditure decisions can lead to good financial position of the firm.

Kim, Mauer, and Sherman (1998), Opler (1999), and Wu (2001), confirmed that cash balance as well as the short-term investments of a firm will be increased because of additional opportunities of growth and variations of potential cash flows. As a result, NLB has the positive relationship with predictable cash flows and growth opportunities. Because of growth opportunities in a company, it wants to obtain fixed assets for its further expansion plans. Consequently, NLB is positively related with estimated capital expenditure. Because of growth chances, a company can enhance the cash holdings. In these situations, conditions regarding liabilities related to operations are delayed and in collection accounts receivables can be accelerated. This, in turn, shows the low working capital demand. Because of this, a negative relationship is found between capital expenditure and the working capital requirement. Due to these reasons, companies with high growth rate give extra time on the capital expenditure management.

A lot of researchers has tried to know about the factors which influence the firm’s working capital. This has been confirmed by Horrigan (1965), Zhou (1995) and Su (2001) that leverage and firm growth influence the working capital of a firm. Generally, financial environment and the firm-specific characteristics are also considered as determinants of working capital. But there are companies which are trying to control working capital as these companies don’t have sufficient knowledge regarding the working capital determinants. Leverage, the growth of the company, finance, and operating expense has an impact on working capital (Zhou, 1995).

Kim et al. (1998) explored the price of exterior financing and the return on prospect investments is growing due to the optimal investment in liquidity. They also identified that opportunities in growth and cash flow fluctuations in future would enhance the cash and subsequently the short-term investments of a firm. In a study conducted by Opler et al. (1999) found that companies maintain the maximum proportion of cash at the time of maximum growth opportunities. It was also explored by them that by increasing surplus cash, firms paid more money on the acquisition of assets. Chiou and Cheng (2006) investigated the determinants of working capital management. The proxies used by them were net liquid balance and working capital requirements. Results showed that companies’ working capital management is affected by operating cash flows and debt ratio.

Capital expenditure impact on the management of working capital was also studied by Appuhami (2008). He used WCR and NLB as proxies for working capital management. The results showed that capital expenditure of a firm has the effect on working capital management. Such results are consistent with the earlier findings of different researchers. Such result increases the knowledge base on working capital management. In a research conducted by Valipur et al (2012), the results were not consistent with Appuhami research (2008). Results showed no significant relationship between firm’s capital expenditure and Net Liquidity Balance. It means the capital expenditure has no effect on the
management of working capital.

3. Research and Methodology

In this study, capital expenditure impact on working capital is examined by using Fixed Effect Model. For this study, data of different industrial sectors have been collected from the financial statements of different companies. Data spans from 2007-2010. The rationale for taking this time period is that data is easily available. The sample size comprises of 96 companies. NLB and WCR were used as proxies of the working capital.

Independent Variables

Capital expenditure
Expenses incurred by companies for purchase and advancement of material assets. Examples include land, buildings etc.

Operating expense
The cost of continuing operations.

Finance expense
Interest on loan and long-term liabilities.

Dependent Variables

Net Liquidity Balance (NLB)
This is related to the liquidity of the firm.

Working Capital Requirement (WCR)
This relates to the working cycle.

Control Variables

Firms’ operating cash flow
Growth (This is usually calculated by the change in sales)
Leverage (This is usually calculated by dividing total debt by equity).

Development of Hypotheses

Working capital management is usually rated by net working capital, current ratio and quick ratio. Shulman and Cox (1985) point of view is that these ratios don’t measure the liquidity in an appropriate manner. To forecast the economic position of a firm, Shulman & Cox divided net working capital into two variables. One is the working capital requirement (WCR) and other is net liquidity balance (NLB). To assess the management of working capital, WCR is usually calculated. To assess the liquidity of the company, NLB is usually calculated. According to Shulman and Cox, NLB is good to predict the liquidity of a firm. Hawawini, Viallet, and Vora (1986) concluded that on the basis of NLB and WCR, assessment of working capital was good as compared to other indicators. NLB and WCR were also used as a proxy for working capital by Jeng-Ren and Li Cheng (2006) to evaluate the underlying forces of working capital.

Because of growth opportunities in a company, it wants to obtain fixed assets for its further expansion plans. Consequently, NLB is positively related with estimated capital expenditure. Because of growth
chances, a company can enhance the cash holdings. In these situations, conditions regarding liabilities related to operations are delayed and in collection accounts receivables can be accelerated. This, in turn, shows the low working capital demand. Because of this, a negative relationship is found between capital expenditure and the working capital requirement. Due to these reasons, companies with high growth rate give extra time on the capital expenditure management.

**Hypothesis**

H1a- Capital expenditure has positive relationship with NLB  
H1b- Capital expenditure has negative relationship with WCR  
H2a- Operating expenditure has positive relationship with NLB  
H2b- Operating expenditure has negative relationship with WCR  
H3a- Finance expenditure has positive relationship with NLB  
H3b- Finance expenditure has negative relationship with WCR

**Model Specification**

\[ NLBi = \beta \text{ OPXi} + \beta \text{ FIXi} + \beta \text{ CAXi} + \beta \text{ Grti} + \beta \text{ Dt/Ei} + \beta \text{ OCH} + \varepsilon \]  
\[ WCRi = \beta \text{ OPXi} + \beta \text{ FIXi} + \beta \text{ CAXi} + \beta \text{ Grti} + \beta \text{ Dt/Ei} + \beta \text{ OCH} + \varepsilon \]

NLB = (cash & cash equivalents + short term investments) – (short term debt + commercial paper payable + Long term debt year term)  
WCR = (accounts receivable + inventories) – (accounts payable + other payable).  
\( \beta \) = coefficient of regression, OPX = operating expense, FIX = finance expense, CAX= capital expense,Dt/E = total debt to total equity, Grt = growth in sales, OCH = operating cash flow in firm, \( \varepsilon \) = the error term

We used Hausman test to check either fixed or random effect model is suitable. Hausman test results confirm the validity of the fixed effect model. We also used GMM method on the data to see the effects. Results of GMM are appended as table 2(a) and 2(b).

### 4. Empirical Results

**Table 1(A)**

Results shown in table 1 are as follows:

a) Capital expenditure has the insignificant relationship with NLB.  
b) Operating expense has the significant negative relationship with NLB. The co-efficient of operating expense is -0.077425 meaning that NLB is reduced by 0.07 for each one bath of operating expense.  
c) Finance expense has the significant negative relationship with NLB. The regression co-efficient of finance expense is -1.878039 showing that NLB is reduced by 1.87 for each one bath of finance expense.  
d) Growth has the insignificant relationship with the NLB. Growth cannot be considered as underlying force in estimating net liquidity balance.  
e) Leverage has the significant negative relationship with NLB.  
f) Operating cash flows have the significant positive relationship with NLB. The regression co-efficient of operating cash flows is 0.339365 showing that NLB is increased by 0.339365 for each one bath of operating cash flow.

**Table 1(B)**

Results shown in table 1 are as follows:
a) Capital expenditure has the insignificant relationship with WCR. In light of the findings, capital expenditure cannot be considered as a pivotal factor in prediction of working capital requirement.

b) Operating expense has the significant positive relationship with WCR. The co-efficient of operating expense is 0.381825 showing that WCR is increased by 0.381825 for each one bath of operating expense.

c) Finance expense has the significant positive relationship with WCR. The co-efficient of finance expense is 0.847687. It means WCR is increased by 0.847 for each one bath of finance expense.

d) Growth has the significant positive relationship with the WCR.

e) Leverage has the positive significant relationship with WCR.

f) Operating cash flows has the significant negative relationship with WCR. The regression co-efficient of operating expense is -0.093734.

5. Conclusion and Recommendations

Results from Testing the First Group of Hypotheses

H1 a - Capital expenditure has positive and significant relation with NLB.

The results explain that capital expenditure has no significant association with NLB. Such results help us in developing the understanding that capital expenditure has no contribution in determining amount of liquidity in companies listed in Pakistan stock exchange. On the basis of such finding, we hereby reject H1a. Such conclusion of the study is inconsistent with the Appuhami research (2008). But the conclusion of this study is consistent with the Valipour research (2012). It looks that inflationary condition in Pakistan motivates the finance managers not to maintain the liquidity. Finance managers desire to invest in other good projects to exploit such inflationary condition. Most likely, the finance managers attempt to utilize the short-term liabilities for financing the capital expenditure.

H2 a - Operating expenditure has positive and significant relation with NLB.

The results show that operating expenditure has the significant negative relationship with NLB explaining that when operating expense occurs, managers do not prefer liquidity. On the basis of such finding, we hereby reject H2 a. The conclusion of this study is inconsistent with research of Appuhami (2008) and Valipour (2012).

H3 a - Finance expenditure has a positive and significant relationship with NLB.

The results show that finance expenditure has the significant negative relationship with NLB. On the basis of such finding, we hereby reject the hypothesis. When finance expense occurs, financial managers don’t have a tendency to hold liquidity. Managers use other sources of finance to pay financial charges. This conclusion is consistent with Valipour (2012).

Results from Testing the Second Group of Hypotheses

H1 b - Capital expenditure has a negative and significant relationship with WCR.

The results show that capital expenditure has no significant relationship with WCR. Such results help us in developing the understanding that capital expenditure has no contribution in determining the amount of Working Capital Requirement in companies listed in Pakistan stock exchange. On the basis of such finding, we hereby reject H1b. Such conclusion of the study is inconsistent with the Appuhami research (2008). But the conclusion of this study is consistent with the Valipour research (2012). It looks that inflationary condition in Pakistan motivates the finance managers not to maintain the liquidity. Finance managers desire to invest in other good projects to exploit such inflationary condition. Most likely, the finance managers attempt to utilize the short-term liabilities for financing the capital expenditure.
**H2 b - Operating expenditure has negative and significant relation with WCR.**
The results show that operating expense has a positive and significant relationship with WCR explaining that operating expenditure has the dominant role in shaping the amount of WCR in companies listed in Pakistan stock exchange. On the basis of such finding, we hereby reject \textit{H2 b}. The conclusion of this study is consistent with research of Appuhami (2008) and Valipour (2012).

**H3b- Finance expenditure has negative and significant relation with WCR.**
The results show that finance expenditure has the significant and positive relationship with WCR. On the basis of such finding, we hereby reject \textit{H3b}. The conclusion of this study is consistent with Valipour (2012) explaining that firms are responsible to enhance WCR when there is increase in the finance expense. It looks that when firms want to pay the cost of financing like interest, they desire to hold greater amount of liquid assets. On the basis of such finding, we hereby reject \textit{H3 b}. It looks that in Pakistan, firms possess more current assets because of special economic environment. Firms usually have a desire to adopt the conservative policy to obtain a reasonable level of profitability.

Growth and leverage have the significant positive relationship with the working capital requirement. It means that growth and leverage play a significant role in shaping the amount of Working Capital Requirement of firms in Pakistan. Operating cash flows has the significant negative relationship with the working capital requirement.

**Suggestion for Future Researchers**
1. This research has been performed on various companies. By using the same model in the study of each sector, financial personals can perceive behavior of a firm’s working capital related to capital, operating and finance expenses.
2. Further research projects can be used on the similar issue in different parts of the world. In order to evaluate the policies of working capital management, it can be compared between developed and under-developed countries.
3. In this study, age and size of the firms has not been incorporated. These two variables can be added in further research.
4. In further studies NWCR can be used instead of NLB and WCR.

**References**


Appendix

Table 1(A) (Fixed Effect Model)
Dependent Variable: NLB
Method: Panel EGLS (Cross-section weights)
Date: 05/20/12   Time: 00:02
Sample: 2007 2010
Cross-sections included: 96
Total panel (balanced) observations: 384
Linear estimation after one-step weighting matrix
White cross-section standard errors & covariance (d.f. corrected)

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<th>Prob.</th>
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Effects Specification
Cross-section fixed (dummy variables)

Weighted Statistics

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Unweighted Statistics

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Table 1(B) (Fixed Effect Model)

Dependent Variable: WCR
Method: Panel EGLS (Cross-section weights)
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Sample: 2007 2010
Cross-sections included: 96
Total panel (balanced) observations: 384
Linear estimation after one-step weighting matrix

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**Effects Specification**

Cross-section fixed (dummy variables)

**Weighted Statistics**

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**Unweighted Statistics**

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**Table 2(A) (Panel Generalized Method Of Movement)**

Dependent Variable: NLB
Method: Panel Generalized Method of Moments
Transformation: First Differences
Date: 05/23/12   Time: 08:36
Sample (adjusted): 2009 2010
Cross-sections included: 96
Total panel (balanced) observations: 192
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument list: @DYN(NLB,-2) NLB NLB(-1) CAPEX(-1) OPEX(-1) FINANCE(-1) LEVERAGE(-1) GROWTH(-1) OPERCASHFLOW(-1) @LEV(RESIDUAL)
### Table 2(B) (Panel Generalized Method Of Movement)

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**Effects Specification**

Cross-section fixed (first differences)

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Dependent Variable: WCR

Method: Panel Generalized Method of Moments

Transformation: First Differences

Date: 05/23/12 Time: 08:48

Sample (adjusted): 2009 2010

Cross-sections included: 96

Total panel (balanced) observations: 192

White period instrument weighting matrix

White period standard errors & covariance (d.f. corrected)

Instrument list: @DYN(WCR,-2) WCR WCR(-1) CAPITALEXP(-1) OPERATINGEXP(-1) FINANCEEXP(-1) LEVERAGE(-1) GROWTH(-1) OPERCASHFLOW @LEV(RESIDUAL)
Effects Specification

Cross-section fixed (first differences)

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<td>LEVERAGE(-1)</td>
<td>42454.02</td>
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<td>9136.312</td>
<td>0.0000</td>
</tr>
<tr>
<td>GROWTH(-1)</td>
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<td>-3.719321</td>
<td>15379.35</td>
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</tr>
<tr>
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<td>0.021575</td>
<td>26.02697</td>
<td>0.0000</td>
</tr>
<tr>
<td>RESIDUAL</td>
<td>0.999961</td>
<td>0.015355</td>
<td>65.12110</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Cross-section random (first differences)

R-squared            0.967344
Mean dependent var   123837.6
Adjusted R-squared   0.966102
S.D. dependent var   2672656.
S.E. of regression   492076.4
Sum squared resid    4.46E+13
J-statistic          1.383073
Instrument rank      12.00000

Correlated Random Effects - Hausman Test
Equation: EQ01
Test cross-section random effects

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
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<tbody>
<tr>
<td>Cross-section random</td>
<td>97.070511</td>
<td>6</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Hausman Test:
As Probability is .000 so we reject null hypothesis that random effect model is more efficient and consistent and conclude that fixed effect model is better.
Impact of Bank Specific and Macroeconomic Factors on Banks Profitability: A Study on Banking Sector of Pakistan

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ARTICLE DETAILS

ABSTRACT
This research focuses and examines the association among profitability of banks, along with bank specific and macroeconomic factors of Pakistan. With the help of financial data of thirty-two Pakistani banks over the period of 2011-2015. Pooled OLS (POLS)/Random Effect, Breusch and Pagan Lagrangian Multiplier Test for Random Effects estimations and Hausman Test for Fixed vs Random effects estimations used for further empirical analysis and interpretations. Further to explore the relationship of profitability indicator ROA along with Earning per Share (EPS), SIZE, Cash Equivalents, Spread Ratio and Capital Ratio as bank specific (banking/microeconomic indicators), while on the other hand Inflation, Interest Rate and GDP as external macroeconomic factors. Statistical results to this study established confirmation that EPS, SIZE, Capital Ratio and GDP have a significant impact on the ROA of banking sector in Pakistan. The calculated results of the study are of worthy to mutually academics and banking financial policy makers.

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DOI: https://doi.org/10.26710/jafee.v1i2.100

1. Introduction
Banking is considered as the backbone of economy for any country, further it is like the life blood of the current global trade and e-commerce scenario, for the reason that banks are the main foundation for supplying of funds to the trading activities to any economy. With the day by day extension of globalization and further enhancing to glocalization (a product or service that is developed and distributed globally, but is also formed and modified to accommodate the user or consumer in a local market,) it has made compulsory the efficient banking system for multinational banks as well as local banking system of any under developing country like Pakistan. The
escalation and financial goals achievement of banking system majorly depends on the competitive marketing strategy. In Pakistan, commercial bank started the dominating the financial system from 1970. The financial history is changed by the nationalization of domestic banks and growth in public sector development of financial institutions. The nationalization process of banking sector from 1980 proved that economy cannot achieve the national socio-economic objectives by doing this. The non-banking financial institutions and public sector in banking was held responsible for financial incompetence, decreeing the excellence of assets and increasing threats of decreasing trend of financial institutions. Keeping in view by the end of 1990 the 90 percent of banking industry share was almost with the public-sector banks, whereas the reaming share was with the multinational foreign banks, the reason behind was that during that era domestic private banks did not exist. In addition to this high share existed for deposits, advances and savings. The significant change in the banking industry of Pakistan incurred after 1997 when banking management, administration and supervision procedure was associated with international best practices. In order to the process of privatization process of public sector banks, some noticeable changes and steps were taken. Furthermore, the ownership and concentration in banking sector is made by the development of merger and consolidation (State Bank of Pakistan, 2009).

1.1 Objectives of the Study
This study is major focused on the objectives and the aim to investigate the connection among bank specific factors and macro-economic indicators on bank performance in banking sector of Pakistan. On the basis of above objectives, the present study attempts to find and test the below mentioned hypothesis:

H0: Macroeconomic factors are not significantly associated with bank specific variables and its profitability.
H1: Macroeconomic factors are significantly associated with bank specific variables and its profitability.

2. Literature Review
Available literature shows that, there are so many researches available which address the bank performance through bank specific factors and macro-economic factors. This research postulate ROA as a measure of bank performance by considering the internal factor (bank specific factors) and external factors (macro-economic factors) as independent variables.

A study conducted by Gul, Irshad, and Zaman (2011) explored factors affecting Bank Profitability in Pakistan year (2005-2009) with the assistance of each bank features (internal microeconomic/bank specific and external macroeconomic factors) calculated as determining element of bank profitability in Pakistan. Above mentioned Hypotheses illustrated to examine bank’s performance along with banking explicit determinants, H1 described about the micro level economic/bank specific antecedents have considerable influence upon profitability of banks. On the other hand, H2 described that exterior macro monetary and economic factors related to banking sector have considerable influence upon the financial performance of banks. The calculated measures proved about mentioned hypotheses recognized as well as showed considerable and important effect upon effectiveness of the banking in Pakistan.

Prosperity of Private sector banks in India with sample size of 23 banks analyzed Bhatia, Mahajan, and Chander (2012). In the findings and results Bhatia, Mahajan, and Chander (2012) concluded that following profitability measured in terms of ROA show a positive association with spread ratio, profitability measures were Business per employee, Profit per employee, Capital adequacy ratio,
Credit deposit ratio and Noninterest income. Though, inverse association with profitability (ROA) against the expected relationship observed with one variable, that was, Investment deposit ratio.

Another study conducted by Kamran, Johnson and Sammer (2016) which explored factors affecting Spread Ratio as Bank Profitability in Pakistan during years 2005 to 2009 by considering bank specific characteristics and macroeconomic factors. Calculated results determined bank profitability/Spread Ratio in Pakistan. There were two hypotheses were developed for analyzing bank’s profitability over specific elements, this study also proved that there is significant influence of specific/microeconomic variables on banks’ effectiveness. In other words, H2 describes about external/macroeconomic factors of the banking sector is having considerable influence upon banks’ productivity. Calculated measures proved about both assumptions had established size, leverage ratio and GDP having significant impact on Spread Ratio/bank profitability of the Bank’s in Pakistan.

Haron (1996) calculations were the first to inspect the effects of external factors on the profitability of Islamic Banks. Results proved that, in competitive market, Islamic Banks earned more than those banks which operate in a monopolistic market. As a result, this study provided the evidence that bank profitability is measured through interest rates, inflation as well as size in both Islamic and conventional banks.

Banks’ profitability During and before the International Financial Crisis study from Tunisia (North African Country) done by Rachdi (2013), in this research impact of banking related, industry related and the country wide economic elements upon effectiveness of 10 commercial banking institutes ranging financial period of 2000 to 2010 was explored in Tunisian. To test the impacts of the current financial crisis, they further divided the period into two sub periods: before the crisis (2000-2006) and during the crisis (2007-2010). Principally, they explored that, earlier than the US subprime crisis, capital adequacy, liquidity, bank size and yearly real GDP growth have a positive effect on the performance of the banking sector. Whereas, cost, income ratio, yearly growth of deposits and Inflation rate remain negatively associated with measures of bank profitability. During crisis period, bank profitability primarily explained by operational efficiency, yearly growth of deposits, GDP growth and Inflation. Their findings and empirical analysis strengthen the previous findings of other researchers for ongoing the banking sector reform programmed.

US Banking Industry explored by Hoffmann (2011), working on the Determinants of the Profitability on the banking sector. Considering the hypothesis based on the association among capital and profitability. That is, an unanticipated increase in capital tends to direct to a decrease in the bank’s profitability.

Determinants of European Bank Profitability explored by Staikouras and Wood (2011) along with working on the sample size of 685 European banks including 138 large banks and 547 small banks financial data. The findings from estimated calculations recommends that bank’s profitability in Europe is not only effected to decisions of the management but to changes and deviated the external macro-economic atmosphere. This study proved that the capital strength level has significant and positive impact on banks profitability, with greater level of equity ratio leads to more profitable bank. Loan to assets ratio have negative association with bank profitability (return on assets). So, this study suggested that profitability enhances with the increase of large non-loan earning assets with compare to those banks which relay on keeping more assets with them.

Soodai and Sulha (2011) were studied under the important element of profitability of Islamic banks
in the GCC Region and used the data of 44 Islamic banks of that region over the 1995-2009. The correspondence of results of the estimates of profitability among conventional and Islamic Banks strongly showed that the methods and the tools developed in the literature on conventional banking are potentially appropriate for Islamic Banking system in GCC Region.

In the study of Molyneux and Thornton (1992), they measured banking performance upon various economic regions. Their study focused 18 countries of Europe. Focus given to financial years during 1986 to 1989. Considerable relationship was found among return on equity along with the different interest rates levels of banking during the financial period.

NOUAILI, Abaoub, along with Anis (2015) worked on the determinants of Banking Performance along with Financial Changes, evidence from Trade Banks in Tunisia. The study conducted by sample size of 17 credit institutions over an era of 16 years. study analyzed and proved regarding the performance indicators progressed during the period of study, that the financial reforms didn’t succeed to improve Tunisian banks performance.

Onuonga (2014) studied the effects of bank specific/internal determinants of profitability on Kenya’s top six commercial banks over the period 2008 to 2013. Their findings revealed that bank size, capital strength, bank operation expenses, ownership, and the ratio of loans to assets are the major significant determinants of the profitability of the top six Kenya commercial banks. The results also confirmed that improvement in capital strength of commercial banks leads to higher profits.

There is strong connection available among banks specific as well as macro-economic factors along with the bank’s profitability in Pakistan, the above discussion confirmed. This study discourses new opening for further research in the available literature and further challenges for upgraded econometric tools and calculus for testing about the banking prosperity for the under developing countries one of them is Pakistan. Specific issued are absorbed which are related with the country and refined data accordingly in this study. Many determinants have been suggested according to the purpose and nature of study, explained in literature review for banks specific and macro-economic factors of profitability of banking sector in Pakistan.

The internal banking factors emphases on bank specific features i.e. Earnings per Share (EPS), SIZE, Cash Equivalents, Spread Ratio and Capital Ratio, while external factors consider Macro-economic factors i.e. Inflation, Interest Rate and GDP in this study.

3. Methodological Framework
The model displays the factors of banks’ profitability which are typically divided into bank specific and macroeconomic factors. The internal factors focus on bank specific features i.e. Earnings per Share (EPS), SIZE, Cash Equivalents, Spread Ratio and Capital Ratio, while external factors consider Macro-economic factors i.e. Inflation, Interest Rate and GDP.
3.1 Development of Hypothesis

We are going to check the effect of internal and external economic environment at the financial (banks) profitability.

H0: Macroeconomic and banking specific factors are not significantly associated with bank's profitability.

H1: Macroeconomic and banking specific factors are significantly associated with bank's profitability.

H0a: EPS is not significantly associated with bank’s profitability.

H0b: SIZE is not significantly associated with bank’s profitability.

H0c: CASH EQUIVALENTS is not significantly associated with bank’s profitability.

H0d: SPREAD RATIO is not significantly associated with bank’s profitability.

H0e: CAPITAL RATIO is not significantly associated with bank’s profitability.

H0f: INFLATION is not significantly associated with bank’s profitability.

H0g: INTEREST RATE is not significantly associated with bank’s profitability.

H0h: GDP is not significantly associated with bank’s profitability.

H1a: EPS is significantly associated with bank’s profitability.

H1b: SIZE is significantly associated with bank’s profitability.

H1c: CASH EQUIVALENTS is significantly associated with bank’s profitability.

H1d: SPREAD RATIO is significantly associated with bank’s profitability.

H1e: CAPITAL RATIO is significantly associated with bank’s profitability.

H1f: INFLATION is significantly associated with bank’s profitability.

H1g: INTEREST RATE is significantly associated with bank’s profitability.

H1h: GDP is significantly associated with bank’s profitability.

3.2 Data Collection and Source

This study used panel dataset that cover the period of 5 years (2011 to 2015), the sample size of 32 banks of Pakistan (appendix). The source of data was central bank website of Pakistan (State Bank of Pakistan) by using various annual reports. The macro-economic variables like Gross Domestic Product(GDP), Consumer Price Index (INFLATION) and Interest Rate were attained from World Bank website (WDI, 2015). The financial data is indicated in term of Rupees (PKR) which is given in Millions in reports. To estimate the data, we used pooled the observations across the banks and applied regression analysis by using this data.

Estimation of OLS (POLS) equation will form in this equation:

\[ \text{ROA}_t = \alpha + \beta_1 \text{EPS}_t + \beta_2 \text{SIZE}_t + \beta_3 \text{CASHEQ}_t + \beta_4 \text{SPREAD}_t \beta_5 \text{CAPRATIO}_t + \beta_6 \text{INF}_t + \beta_7 \text{INTEREST}_t + \beta_8 \text{GDP}_t + \varepsilon_t \]

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Where:
In this research study, all dimensions of the bank specific and macroeconomic factors on the profitability are not focused but some most important factors are included:

3.3 Independent variables

**EPS**: It tells shareholders how much money each share of their stock earned for the company. It is important because, usually, when a company has high earnings per share, it also has a high stock price.

**Size**: Logarithm of total assets (log C). In majority of the studies, sum of assets of bank are considered for bank size.

**Cash Equivalents**: is highly liquid investment having a maturity of three months or less. It should be at minimal risk of a change in value. Examples of cash equivalents are: Commercial paper. Marketable securities.

**Spread Ratio**: In banking, the net interest rate spread is the difference between interest earned on loans, securities, and other interest-earning assets and the interest paid on deposits and other interest-bearing liabilities.

Formula = (Interest Income/Interest Earned) x100

**Capital Ratio**: it represents the amount of assets on which shareholders have a residual claim. The figures used to calculate the ratios are taken from the company balance sheet (total equity / total assets).

**Inflation**: Inflation affects companies pricing behavior. Banks limit the Inflation and avoid deflation, to keep the economy running smoothly. If the companies expect future inflation will be higher, they hope that they can rise their prices without effecting the demand for their production.

**Interest Rate**: is considered as amount received on the principal amount of loan, paid by borrower to the lender, rate of the principal amount in lieu of the usage of any assets. Also known as the annual percentage rate (APR).

**GDP**: GDP is market value of all goods and services a country can produce. Pakistan has less GDP rate than south region countries. GDP captures upswings and downswings manifesting in the
business cycles.

**Dependent Variables**

**ROA:** For the profitability measurement of any of the business is return of assets because assets generates income for the business. Securities and loans are the assets of the banks that generate income for the banks [Assets = Liabilities + Bank Capital (Owners’ Equity)].

**Calculations and Data Analysis**

Further is the performed analysis of our study, which includes data of 32 banks from 2011 to 2015 of Pakistan

**3.4 Descriptive Statistics**

Table 01 shows the descriptive statistics for all the variables. Mean is the centered significance of entire data or set. The mean of all dependent and independent variables is in the range of 0.0832917 ≤ Mean ≤ 11.09538 and are positive. ROA Standard Deviation is 0.0217477 which indicates that the observations in data set are closer to the Mean. The minimum and maximum ROA are -0.0567824 and 0.1038025 respectively. Total observations in our study data set are 160 (32 banks X 60 months). Further detail of variable's descriptive statistics is given.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs.</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>25%</th>
<th>Median</th>
<th>75%</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>160</td>
<td>0.0116527</td>
<td>0.0217477</td>
<td>-0.0567824</td>
<td>0.0034041</td>
<td>0.010202</td>
<td>0.0184464</td>
<td>0.1038025</td>
</tr>
<tr>
<td>EPS</td>
<td>160</td>
<td>3.766412</td>
<td>5.950976</td>
<td>-6.32</td>
<td>0.265</td>
<td>1.685</td>
<td>4.28</td>
<td>23.93</td>
</tr>
<tr>
<td>SIZE</td>
<td>160</td>
<td>11.09538</td>
<td>0.7488926</td>
<td>8.58</td>
<td>10.86</td>
<td>11.05</td>
<td>11.59</td>
<td>12.33</td>
</tr>
<tr>
<td>CASHEQUA</td>
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<td>0.0832917</td>
<td>0.129123</td>
<td>0.0000187</td>
<td>0.016270</td>
<td>0.046749</td>
<td>0.0871196</td>
<td>0.6778576</td>
</tr>
<tr>
<td>SPREAD</td>
<td>160</td>
<td>5.122857</td>
<td>0.8428657</td>
<td>0.78</td>
<td>4.814167</td>
<td>5.171094</td>
<td>5.54</td>
<td>6.193333</td>
</tr>
<tr>
<td>CAPRATIO</td>
<td>160</td>
<td>0.417623</td>
<td>0.7910564</td>
<td>0.0011845</td>
<td>0.0361571</td>
<td>0.0801343</td>
<td>0.5843777</td>
<td>3.406841</td>
</tr>
<tr>
<td>INF</td>
<td>160</td>
<td>7.810265</td>
<td>3.127824</td>
<td>2.53</td>
<td>7.23</td>
<td>7.689504</td>
<td>9.685054</td>
<td>11.91677</td>
</tr>
<tr>
<td>INTEREST</td>
<td>160</td>
<td>7.328</td>
<td>0.7811463</td>
<td>6</td>
<td>7.17</td>
<td>7.26</td>
<td>7.98</td>
<td>8.23</td>
</tr>
<tr>
<td>GDP</td>
<td>160</td>
<td>3.876</td>
<td>0.2348804</td>
<td>3.62</td>
<td>3.65</td>
<td>3.84</td>
<td>4.03</td>
<td>4.24</td>
</tr>
</tbody>
</table>

**Pairwise Correlation**

The coefficient values indicate that if we change 1 unit in independent variable EPS, 21.27% change will be there in dependent variable (ROA). Independent variables EPS, SIZE and CAPRATIO are significant with values falling in 1% significance level respectively. Above table defines that the correlation between SIZE (Log of Total Assets) and ROA (Return on Assets) is negative with -0.2884 and the significance level is 1%. the correlation between CASHEQUA (cash to total assets) and ROA (Return on Assets) is positive with 0.0676, the correlation between SPREAD (Income received to Income expense paid) and ROA (Return on Assets) is negative with -0.0339 as well as the correlation between CAPRATIO (total equity to total assets ) and ROA (Return on Assets) is positive with 0.3386 and significant level is 1% Same as, the correlation between INTEREST, INFLATION and GDP, and ROA is positive with 0.006, 0.0085 and 0.0144 respectively.

**Table 2**
<table>
<thead>
<tr>
<th>Variable</th>
<th>ROA</th>
<th>EPS</th>
<th>SIZE</th>
<th>CASHEQUA</th>
<th>SPREAD</th>
<th>CAPRATIO</th>
<th>INF</th>
<th>INTEREST</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPS</td>
<td>0.2127*</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.2884*</td>
<td>0.5747*</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CASHEQUA</td>
<td>0.0676</td>
<td>-0.1496</td>
<td>-0.1891*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPREAD</td>
<td>-0.0339</td>
<td>-0.0452</td>
<td>-0.0469</td>
<td>0.0263</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPRATIO</td>
<td>0.3386*</td>
<td>-0.1607*</td>
<td>0.6431*</td>
<td>0.0176</td>
<td>0.0062</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>0.006</td>
<td>-0.068</td>
<td>-0.0425</td>
<td>-0.078</td>
<td>0.4819*</td>
<td>-0.0301</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTEREST</td>
<td>0.0085</td>
<td>-0.0654</td>
<td>-0.0381</td>
<td>-0.0802</td>
<td>0.4516*</td>
<td>-0.0306</td>
<td>0.9882*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>0.0144</td>
<td>0.0737</td>
<td>0.0477</td>
<td>0.0568</td>
<td>-0.4263*</td>
<td>0.0233</td>
<td>-0.8500*</td>
<td>-0.7816*</td>
<td>1</td>
</tr>
</tbody>
</table>

**Pooled OLS or Random Effect**

For determining the pooled OLS and random effect model regression in order to test this, for testing of random effect we applied BPLM test (Breusch and Pagan Lagrangian Multiplier). The null hypothesis in the LM test is that variances crossways entities are zero. There is no major variance crosswise units (i.e. no panel effect). The command in STATA.v.14 for this test is “xttset0” type it right after running the random effects model. Breusch and Pagan Lagrangian multiplier test for random effects. The results of pooled OLS and Random effect are as under:

Table 3 shows the results of Pooled OLS and Random Effect in regression model.
### Table 3

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(Pooled OLS) ROA</th>
<th>(Random Effect) ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS</td>
<td>0.00215***</td>
<td>0.00133***</td>
</tr>
<tr>
<td></td>
<td>(0.000320)</td>
<td>(0.000368)</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.0204***</td>
<td>-0.0134***</td>
</tr>
<tr>
<td></td>
<td>(0.00358)</td>
<td>(0.00438)</td>
</tr>
<tr>
<td>CAPRATIO</td>
<td>0.00145***</td>
<td>0.00220***</td>
</tr>
<tr>
<td></td>
<td>(0.000546)</td>
<td>(0.000644)</td>
</tr>
<tr>
<td>CASHEQUA</td>
<td>-6.75e-09***</td>
<td>-7.62e-09***</td>
</tr>
<tr>
<td></td>
<td>(2.50e-09)</td>
<td>(2.33e-09)</td>
</tr>
<tr>
<td>INF</td>
<td>-0.000415</td>
<td>-1.63e-05</td>
</tr>
<tr>
<td></td>
<td>(0.00519)</td>
<td>(0.00187)</td>
</tr>
<tr>
<td>INTEREST</td>
<td>0.00297</td>
<td>0.00167</td>
</tr>
<tr>
<td></td>
<td>(0.0175)</td>
<td>(0.00632)</td>
</tr>
<tr>
<td>GDP</td>
<td>0.00311</td>
<td>0.00429</td>
</tr>
<tr>
<td></td>
<td>(0.0169)</td>
<td>(0.00611)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.201***</td>
<td>0.128**</td>
</tr>
<tr>
<td></td>
<td>(0.0755)</td>
<td>(0.0514)</td>
</tr>
<tr>
<td>Observations</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.333</td>
<td></td>
</tr>
<tr>
<td>Number of Banks</td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

**Breusch and Pagan Lagrangian Multiplier Test for Random Effects**

The probability value of this test is less than 5%. The result indicates that we will accept the null hypothesis and random effect is appropriate of this test for this model.

**Hausman Test:** This test used to determine fixed or random effect. This test basically examines whether the unique errors are correlated with the repressors'. Here we generate Ho and H1 for our study.

Ho: Difference in coefficients is not systematic
H1: Difference in coefficients is systematic

By the help of processing fixed effects model further saving the approximation, then running a random model and save the estimates, after that performed the hausman test: The estimation said that if the result is less than 0.05, use fixed effects. But according to our data set the hausman test result is 0.8773 so we used random effects.
4. Conclusion

The research examines the brunt of banking sector specific characteristics and macroeconomic indicators upon bank’s performance and profitability in banking sector of Pakistan, financial period of 2011 to 2015. Total 32 banks were selected for this purpose. Bank specific factors focused on following features i.e. Earnings Per Share (EPS), SIZE, Cash Equivalents, Spread Ratio and Capital Ratio, while Macroeconomic factors considered i.e. Inflation, Interest Rate and GDP. The characteristics of Individual bank i.e. (internal and external factors) measured the profitability of the banks. Banks having more Earning Per Share (EPS), SIZE, Cash Equivalents, Spread Ratio and Capital Ratio, Inflation, Interest Rate and GDP leads to have additional safekeeping and its benefit can be converted to obtain more profitability. To approach this, two hypotheses were developed for examining bank’s Profitability over specific determinants i.e., H0: Macroeconomic and banking specific factors are not significantly associated with bank's profitability.H1: Macro-economic and banking specific factors are significantly associated with bank's profitability. The factors that have
significant impact on bank’s profitability (ROA) are EPS, Size, Capital Ratio and GDP. All these four factors remain significant at 5%. It means that there are 95% chances that factors are problematic to the bank’s profitability under the normal circumstances. While the other factors Cash Equivalents, Spread Ratio, Inflation and Interest Rate remain insignificant on bank’s profitability which means these factors are non-problematic for the banks under normal circumstances. In closure note results suggested that in banking industry management while designing decisions regarding their future policies and profitability planning, they should consider the economic environmental factors.

References

Appendix

Lists of Schedule Banks in Pakistan

<table>
<thead>
<tr>
<th>Bank Names</th>
<th>IDB (Identification of Banks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albaraka Bank (Pakistan) Limited</td>
<td>1</td>
</tr>
<tr>
<td>Allied Bank Limited</td>
<td>2</td>
</tr>
<tr>
<td>Askari Bank Limited</td>
<td>3</td>
</tr>
<tr>
<td>Bank Name</td>
<td>Page</td>
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<tr>
<td>---------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Bank Al Habib</td>
<td>4</td>
</tr>
<tr>
<td>Bank Alfalah Limited</td>
<td>5</td>
</tr>
<tr>
<td>Bank of Khyber</td>
<td>6</td>
</tr>
<tr>
<td>Bank of Punjab</td>
<td>7</td>
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<tr>
<td>BankIslami Pakistan Limited</td>
<td>8</td>
</tr>
<tr>
<td>Burj Bank Limited</td>
<td>9</td>
</tr>
<tr>
<td>Citi Bank</td>
<td>10</td>
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<tr>
<td>Dubai Islamic Bank Pakistan Limited</td>
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<tr>
<td>Faysal Bank Ltd</td>
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<tr>
<td>First Dawood Investment Bank Limited</td>
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<tr>
<td>First Habib Modaraba</td>
<td>14</td>
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<tr>
<td>First National Bank Modaraba</td>
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<tr>
<td>First Women Bank Limited</td>
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<td>Habib Bank Limited</td>
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<td>JS Bank Limited</td>
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<tr>
<td>MCB Bank Limited</td>
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<tr>
<td>Meezan Bank Limited</td>
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<tr>
<td>National Bank of Pakistan</td>
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<tr>
<td>NIB Bank Ltd</td>
<td>25</td>
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<tr>
<td>Samba Bank Limited</td>
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</tr>
<tr>
<td>Silkbank Limited</td>
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<tr>
<td>Soneri Bank Limited</td>
<td>28</td>
</tr>
<tr>
<td>Standard Chartered Bank (Pakistan)</td>
<td>29</td>
</tr>
<tr>
<td>Standard Chartered Modaraba</td>
<td>30</td>
</tr>
<tr>
<td>Summit Bank Limited</td>
<td>31</td>
</tr>
<tr>
<td>United Bank Limited</td>
<td>32</td>
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</table>
Detecting Earning Management: Deferred Taxes Vs Accruals: A Pakistani Perspective

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Objective: Earning Management has been one of the major areas of accounting research which has received a great attention in the past and also quite recently. Detecting earning management has always been one of the major areas of concern for the researchers. Earnings Management is pervasive. There are a number of models available to Detect and measure the earnings management activity.

Methodology: The accrual models are the most used models to proxy the discretionary accruals and the earnings management. The effectiveness of the accrual models is somewhat skeptical at times when researchers found some inconsistencies in results while using the accrual models. The researchers are still finding some better and effective model that can be used to better measure and capture the earnings management activity. The focus of this study is to find out as to whether a deferred tax as compared to accrual models is more useful in measuring or detecting the earnings management in Pakistani perspective. The study is based on the Pakistani companies listed on the Karachi Stock Exchange (KSE). This study is expected to be an addition to the existing research as to whether the models used for detecting earnings management through deferred taxes by Philips et al (2003) are also applicable to Pakistani Scenario which is a developing country. The study used Probit Regression Model with pooled cross sectional data to measure the usefulness of both; accruals and deferred taxes (the proxies) used as better measure for Earnings management.

Results: The results of the study are inconsistent with the Philips et al. (2003) study. Based on this study it is concluded that deferred tax is not incrementally useful along with the other accrual measure. The accruals models show significant results and are more powerful metric to detect earnings management as compared to the deferred taxes in Pakistan.

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1. Introduction

Earnings Management is one of the most important subject of accounting research which has received a great attention in the past and also quite recently. Detecting earnings management has always been one of the major areas of concern for the researchers and in this regard various researches have been done to define and detect earnings management. There are number of methodologies to detect earnings management. Among them accrual based model are on top. The Enron Corp. and WorldCom Inc. show the extent, ability, and willingness of managers to manipulate or miss-state financial accounts. The academic literature has not, until recently, shown that managing earnings to have had a significant effect on the reported earnings (Dechow and Skinner, 2000). This ineffectiveness is in part attributed to methodological issues and also to a lack of focus on capital market motivations to manage earnings. This research assesses the use of the Deferred Tax Expense (DTE) to find out and uncover the earnings management. The First objective of the study evaluates the incremental effectiveness of Deferred Tax expense (DTE) as compared to accrual measures in uncovering earning management (EM) to avoid earning decline. Similarly on the otherhand the second objective of the study evaluates the incremental effectiveness of Deferred Tax expense (DTE) as compared to accrual measures in uncovering earning management (EM) to avoid a loss. This study made two main contributions to the existing literature, using data upon Pakistani firms to add the Pakistani Perspective. First, in employing a novel methodology in Pakistani Scenario, the results have the potential to confirm and strengthen findings based on existing methodology. Secondly, the study investigates earnings management by focusing upon deferred tax provisioning in Pakistan - an area of financial accounting practice which is both relatively complex, highly subjective, and in which, therefore, the opportunity to manage earnings is correspondingly heightened.

The public accounting organizations play a key role in educating accounting professionals. Quality of earnings by and large depends on the management of firm. It is therefore the intention of the management that influences the earnings quality. Intention of management to manipulate earnings may be to achieve certain explicit or implicit objectives and to bring the desired results. But if the management does not influence the accounts or their intentions are not to manipulate the earnings that will in turn positively affect the quality of information generated therefore the quality of earnings will be higher. If there is no earnings management activity it does not mean that information generated is highly reliable and the quality of earnings is high. Earnings Quality is dependent on the disclosures of information in the financial reports, whereas we all know that not all related information can be disclosed in the financial reports.

The regulatory bodies like Security and Exchange Commission (SECs), and the other stakeholders require guarantee that the earnings quality, which is reported to them, should be high. In order to achieve higher earnings quality FASB objectives must be kept in mind. It is among one of the Financial Accounting Standard Board (FASB) Conceptual Framework objectives to allow the investors and creditors to make financial decisions of investing and lending. FASB Conceptual Framework emphasizes the reliability, significance and prognostic value of information included in the financial reports. Hence while defining the term earnings quality; all those characteristics mentioned in FASB Conceptual Frame Work must be present in the definition.

Akber et. al (2007) defines earnings quality as “Earnings quality is a measure of the ability of reported earnings to reflect the firm’s true earnings and to help predict future earnings.”

Although there is some efforts put together to equip the modern managers and the students about the abusive earnings management in companies. Still a lot more needs to be done by the regulatory bodies,
standard setters and the accounting firms to impart through education the skill to identify the earnings management in the firms. Education is the only way out which would fill the gap of information asymmetry. According to Robinson et al. (1999) study most firms that fraudulently misstate their earnings by resorting to earnings management hired Big Five Public Accounting Firms as auditors. There is need to impart knowledge or earnings manage and the Business and professional publications can play a vital role in this regard (Akers et al, 2007).

Akers et al (2007) in his paper mentioned that auditors hired by firm are in a best position to adjudge the quality of earnings due to their expertise in IAS/IFRS or GAAP, the clients control and their business practices. Hence, they should report on the firm’s earnings quality.

Akers et al (2007) argues that the profession has done far less and there is still a lot more to be done on this front in the academia, the professional accounting bodies, regulatory bodies like Securities and Exchange Commission of Pakistan (SECP) in case of Pakistan. Relying on the audit firms to identify any such activity is to happen in rarity as they can or sometimes are party to these activities.

2. Literature Review

There have been numerous definitions available for defining Earnings management. Among the researchers Healy and Whalen are the most famous and most quoted for the definition of the earnings management. Paul M. Healy published a paper in 1985 in the Journal of Accounting and Economics. That provided the basis on which all the latest studies are based one way or the other, in fact, all the recent studies are mere extension and refinement of the original Healy 1985 Model. He also published another paper with James M. Wahlen in 1999 in the Journal of Accounting Horizon. Hence, by doing so, they provided the definition for the earnings management and base for latest researches.

Definition of earnings management by Healy and Wahlen (1999):

It is an attempt by the managers to mislead some stakeholders about the economic performance of the company or to influence the outcomes of contracts that may affect their compensation (Healy and Wahlen, 1999).

Beneish (2001) put forward definitions of many authors and provided a very comprehensive literature on earnings management. Beneish (2001) investigated the motivations that lead to earnings management and provided literature about the measurements of earnings management some of the definitions that he quoted are as under:

“The process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings”. (Davidson, Stickney and Weil, 1987, cited in Schipper 1989 p92 cited in Beneish, 2001 p.2) Or

Hence it is quite evident that how managers while remaining with the legal bounds can bring about desired results from financial reports.

“A purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process)…. “A minor extension of this definition would encompass” real” earnings management accomplished by timing investment or financing decisions to after reported earnings or some subset of it” (Schipper, 1989, p.192 cited in Beneish, 2001).

From the above definition the purposeful intervention means that the normal transactions are
intervened, as normally in the actual course of the transaction, it would not be possible to change any results or in other words transaction would bring real or actual results. Hence, in order to get private gain the managers have to intervene. Therefore, by intervening and changing the nature of transaction while remaining within the legal bounds, it would result in changed scenario after the transaction as compared to the actual (real) transaction. If the earnings are managed not remaining within the legal bounds it would be legally called fraud, misstatement or misrepresentation that can be litigated.

All three definitions of earnings management describe it as the discretion used by the managers under the standards to manipulate the accounting information. Managers have incentives and discretion for earnings management. Also according to these definitions earnings management can result, by manipulation at any stage of preparation of the financial or accounting information from transaction to finalization of the financial statements. Earnings management keeps the cover on the true and actual performance of the company from shareholders and others stake holders. Therefore if we evaluate the performance of a company the earnings are a less reliable measure due to the earnings management.

If the investors are to rely on the company earnings it would be misleading for them as the opportunistically managing the earnings and the higher motivations to manipulate earnings decrease the value of information due to earnings management activity (Christensen et al. (1999), Marquardt and Wiedman (2004)). The capability of the investors to spot the earnings management and rate them by accounting for the earnings management in their decision making would by and large affect the resource allocation decisions by the investors. The lesser their ability the more prone they would be to the risks of potential poor allocation of resources.

The analysis of earning management reveals that it is pervasive and there are numerous incentive for which the firm managers would use their discretion (Benedish, 2001), among them the companies while they raise capital are most likely to manage their Earnings, or when they need to meet analyst expectations or bonus plan targets related to executive compensation schemes (Kadan & Yang, 2004). Firms that nearly meet the expected targets are more prone to manage their earnings. Managers manage the earnings when there is a strong emphasis on them to meet or beat the target expectation (Lee, 2007). Thus the manager resort to the earnings manipulation practices to achieve the targets and hide any decline in earnings or avoiding losses to firms. As the failing to meet the target would bring about bad signaling effects of the firms, and it may result in a decrease in the market price of the shares. Thus, it would bring a decrease in the shareholder wealth. This would also affect the performance of the manager. The dismal performance of the mangers is one of the many other factors the manager resort to smoothening of the earning. The managers are reprimanded for the dismal performance of the firm. Because, among all the indicators earnings or Earnings Per Share is a main performance indicator of the firm. Firms that nearly meet the expected targets are more prone to manipulate and manage earnings. When they need to meet analyst expectations or bonus plan targets related to executive compensation schemes. But also the earnings management in previous studies disregards the fact that market Conditions, like economic growth and industry valuation, are not constant over Time, if we focus on the market conditions can also affect the equity prices and will influence managers’ decision to engage in earnings management. (Jiao, Mertens & Roosenboom, 2007). (Lang) also mention that prior financial disclosures by the firms influence the stock prices, hence the manager would resort to manage their earnings through discretionary accruals.

According to different academic researchers the financial statements incorporate a large effects of earnings management. The share price performance is linked to the manipulation and management of earnings as it is argued it is linked to managerial incentives and the managerial incentives is linked to shares prices (Dechow and Skinner, 2000). The research will bring about more and effective results if
the focus of the studies is put on the firm’s valuation (Ben-HsienBao and Da-Hsien, 2006). According to Yoon (2005) mostly the previous researches focused on earnings management with covering some specific event that would induce the company managers to manage earnings. Companies may be induced to disclose higher earnings in reports if they are having cash flow problems in form of liquidity crunch. Companies face problems in getting loans if their cash flow from operations is hard to come. Despite the low performance the company managers would not like to show a gloomy picture of the company and therefore they manage earnings upward and avoid showing up losses. The credit worthiness of a company and the stock prices has a direct link with the earnings.

In addition to this, company managers at times attempt to downplay earnings to reduce tax obligations or also sometimes to evade political costs when the company is having a good time. The Earning management is also used to manipulate stock prices prior to the grant of stock options (Balsam, Chen, and Sankaraguruswamy, 2007) as the stock option creates incentive to the management to depress the price of the stock before the grant date. (Leuza, Nanda, D. Wysocki, 2002) accounts for investor protection and hints that argues that the insiders in order to protect their own private control benefit resort to earnings management which means that private investor protection is reduced. The above literature shows that Earnings management affects the share’s price from a variety of ways as the stock price, among many other factors, is the indicators of company’s worth. The value of stock is determined by the earning power of the firms. So the earning management is used to manipulate the stock prices to achieve various objectives by the managements. However, it is predominantly evident that presence of large institutional investor on board of director dose affects the earning management decision by serving as a check and therefore a constraint on manager discretion (R. Chung et al. 2002). There is also evidence of using discretion to avoid loss or income declines in publicly held financial institution like bank Beatty (2002). Beatty (2002) wrote papers in 1998 which was published in the Review of Accounting Studies in 2002. The study concluded that higher number of companies were showing a small increase in their earning relative to higher number of firm which shows small earnings declines. The study was conducted on the publicly and privately held banks. These higher frequencies around the earnings threshold were attributed to earnings management.

A phenomenon of Earnings Management (EM) is not easy to be detected from the company’s annual financial reports. The reason of this is that the propensity of such activity to be undetectable. EM can only be considered successful if it is undetectable. Previous researchers worked on earnings management detection and their focus was on the accounting techniques and methods which were changed. These changes were generally easily observable to outsiders. This study is distinctly different in this manner to more recent studies that are done with accruals, which has found that many times the market does not rate accrual and therefore the earnings management goes unnoticed (Healy and Wahlen, 1999). It is very difficult to find a method which can find how earnings management goes undetected by the market. The researches attack the problem from different angle as they take these phenomena in general whereas the investor looks it as a single case and single object. Studies or researches are normally based on a large data set and thus it is difficult to observe and analyze the systematic patterns, which if look at as a single case scenario may seem random.

Researchers first develop a hypothesis about the presence of earnings management and then apply different appropriate tests to investigate where it is present. Mostly the recent researches these tests are applied on accruals which is presumed to be subject to managerial discretion we call it discretionary accruals or abnormal accruals. Number of models have been presented by various researchers to detect earning management but the accrual models are used more than any other model to detect earning management in researches on earnings management. Healy (1985) used mean of total accruals which were divided by earlier period (t-1) total assets across the partitioning variables. Healy partitioning
variable divided observations in three groups in which one group predicted to have managed earnings upward while the other two groups managed earnings downward. There are two points defined by Dechow et al (1995) in his study which are namely estimation period and the event period. Observations set of which earnings is expected to be manage downward is tremendous an event period and the other observation set, the earnings of which is expected to be manage upward is called estimation period. DeAngelo model uses earlier period total accruals that are divided by the previous years’ total assets as a metric for nondiscretionary accruals. As this model uses differences in the total accruals with the assumption of first differences has an expected zero value in $H_0$ of no earnings management. Like Healy (1985) in DeAngelo Model the estimation of nondiscretionary accruals are restricted to previous years’ observations. To proxy the non-discretionary part of accruals both the model employ total accruals from the inference period. If the nondiscretionary component of the accruals is not changing over a period of time and discretionary component of the accruals possess a zero average or the mean in the period named as estimation period. These models will determine the nondiscretionary component of accruals with complete accuracy but in both the total accrual models it will produce error for the calculation of nondiscretionary part of the accruals if nondiscretionary part of the accruals changes over period of time. Consistent with Dechow et al. (1995) Healy (1985) is effective if nondiscretionary accruals keep to a white noise process around a constant mean whereas DeAngelo (1986) method is effective if nondiscretionary accruals keep to a random walk. These two models are based on the postulation that the nondiscretionary accruals remain steady over a period of time and does not change, which is unlikely. The accruals accountings process changes the nondiscretionary accruals as the economic environment change. The changes in the economic environment are therefore not accounted for in the Healy(1985) and DeAngelo (1986) Models. Secondly a firm may face abnormal situations which cannot be captured with the both total accrual models. Dechow and Sloan (1991) used industry model which is same as the Jones Model. It also incorporates a change for the variation in nondiscretionary accruals as we all know that nondiscretionary accruals change over the course of time and does not remain constant. As it was earlier mentioned the Healy (1985) &DeAngelo (1986) models which assumed nondiscretionary accruals to remain steady over time.

The industry model holds the assumption that change in the determinants of nondiscretionary component of the accruals common transversely in companies in same industry. Jones introduced a new model in which the assumption of constant nondiscretionary accruals was relaxed. He used regression of total accruals on elements that brings about variations in company’s fiscal and financial surroundings to spot the management of earnings, and uses the residual as surrogate for abnormal accruals. Jones Models incorporated the outcomes of variations in the company’s financial environment on nondiscretionary accruals. Jones assumes that the revenues are nondiscretionary component and therefore with this implicit assumption the Jones Model produces a biased estimate. The manager sometimes use revenues to manage earnings as they book revenue by dummy invoicing or when the revenue was not to be recognized and accrue revenue that would result in the cash or payment is yet to be received therefore there is increase in accounts receivable. With this limitation the estimates produced are biased. Adjustments were provided by Dechow et al (1995) for discretions used in accruing revenue when there is doubt about the observance of revenue recognition criteria. The non-conformance to observe revenue recognition criteria results in error in Jones Methodology. This Methodology eliminated error produced by Jones (1991) methodology and therefore incorporated for the discretion used in the revenues. The Modified Jones Model provides a slight adjustment to the Jones Original Model as it provides adjustment for the change in revenue and for variations in receivables in period of event. This model is built on presumption that all variations in the credit sales are flexible and subject to discretionary. Credit sales are argued to have been subject to management of earnings with more ease than that of cash sales. Hence it is easy to use discretion in case of credit sales as compared to the cash sales in which the discretion cannot easily be exercised by the firm managers. In the Jones
Original Model it was implicitly assumed that discretion for revenues is not used in the period of event. However, in absolute terms, the two models have a very low power for earnings management. The probability may range from 01% to 05% of total assets. In addition, these two models show very poor results for extreme financial performances which therefore miss-specify them, with each model producing a significant proportion of Type-I errors when applied to companies with excessive cash flows. Results cast doubt at the effectiveness of these two i.e. standard Jones and modified Jones methodologies isolating accruals manipulation. Wayne R. Guay, R. P . Kothari and Ross published a paper in USA in 1996. He with the left out sample of 1450 firm and 31,372 firms years observation produced a result consistent with this skeptical view evaluated the both models using a market based procedure and according to his results among all accruals model neither of the model generates a reliable measure of accrual management. This study cast doubts on the reliability of the accrual models as all the previous studies showed reliably significant results but this study provided an impetus for the researchers to find out more avenues, or other more refined models to measure the ever dominating phenomena of earnings management. Hence there is still a need of more refined and accurate model to measure the earnings management. To alleviate the measurement errors linked to the discretionary accruals, Larcker & Richardson (2004) made slight adjustment and added the book-to-market ratio and operating cash flows to equation of modified Jones equation.

The projected growth in the operations is controlled through Book to market ratio and if the projected growth is missed out and left uncontrolled discretionary accruals will account for that. To capture the operating performance of current year Cash Flow from the operations is present. Dechow et al (1995) argues that both the models miss-specifies the discretionary accruals if the company’s financial performance is extreme, hence the CFO is added as. Larcker & Richardson (2004) has provided a model which according to them has a better explanatory power to the modified Jones model; it spots the unpredicted accruals which are less constant then other factors of earnings. Their models spot earnings management as per SEC enforcement actions and distinguish discretionary accrual which is linked to low future earnings & low future share returns. Extreme performance by companies can lead to errors in the detection of earnings manage. According to Kothari et al. (2005) the unexpected and extreme performance are systematically non zero and thus the company’s performance is related to accruals. Two methods were tested by Kothari et al. (2005) to account for the company’s performance with the discretionary accruals. Return on Assets (ROA) adds a supplementary independent variable in the regression. The results of that study suggest the current period ROA as the better measure than matching on the prior year ROA. Hence it is concluded that this is a superior measure than to include performance variables to the discretionary accruals regression. Beneish (1999) used a relatively different sample of firms. He took a sample of all those companies which received SEC’s enforcement action and companies which were identified by news media as the one who managed there earnings. He used a probit model to spot the earnings management with different variables of financial reports and statements.

The model used by him is not like traditional models but the model is adopted for the purpose spotting earnings management. The model provided result that shows association of the likelihood of earnings management with selected variables from the financial statements.

McNichols (2000) mentioned Aggregate accrual models that does not take into the account the long term earnings growth are miss-specified. The miss-specification therefore can lead to confusing results and deductions in the earnings management behaviors.

Defond and Jiambalvo (1994) and Teoh et al. (1998) has also endeavored to further refine and make it
more effective model. They worked it out with working capital components of the total accruals. Two authors, Beneish (1998) & Young (1999) has put forward that this is more appealing formula as it is a year to year basis management of earnings with depreciation. Accruals are expected to have limited capability.

In addition, Young (1999) reports that Jones style models based on a measure of total accruals (i.e., inclusive of the depreciation charge) induce substantial measurement inaccuracies in the resulting estimate of accruals that are managed. Lastly original time series model of the Jones and modified Jones methodologies proven to have limited efficacy when we implement the formulas empirically because of the need for a sufficiency of data for the long time series to enable an estimation which is effective for the first stage regression parameters.

This constraint has brought about several apprehensions as problem of survivorship bias naturally turn up and the assumption of stationarity over time for the coefficient estimates of REV and PPE might not stay appropriate. Lastly there is a characteristic of accruals in which the accrual reverses that may also bring a specification problem in the form of serial correlation in residuals. To rid those issues, a recent study by Becker et al (1998); Subramanyam, (1996); DeFond and Jiambalvo, (1994) used a cross sectional models.

Philips et al (2003) provides evidence of temporary differences arise book and tax income which can also be used to spot the earnings management. It is very common that income tax liability in a period of account does not represent the total tax consequences. A separate IAS i.e. IAS 12 Incomes Taxes, is available to capture the total tax consequences of transactions recognized in reporting. IAS 12 delineates how to recognize the transactions and its future and current consequences. IAS 12 requires that the total consequences of the a period of account and any other event be recognized in the same period of account in which these transactions and their consequences and any other event fall. If there is an increase in the deferred tax liability it mean the company is either currently recognizing revenue or is deferring some of its discretionary expenses for accounting purpose. A deferred tax liability arises in balance sheet due to such revenue recognition or deferrals of expenses and a deferred tax expense later on in statement of comprehensive income. Similarly, if the company is deferring to recognize its revenue or recognize expenses now in such a case it would result in deferred tax assets on the statement of financial position future deductible amounts. These are done in the company own accounts and has nothing to do the tax accounts as they may vary according to tax authority rules and regulations. Exceptions are in case of merger, acquisition, divestitures. The change in deferred tax liability results in deferred tax expense in statement of comprehensive income.

Temporary book tax differences is used to spot earnings management (Philips et al, 2003). As there are differences in the carrying value of an asset and tax base that are recognized in period of account to which it belongs to. Phillips et al (2003) has developed a hypothesis based on which it concluded that deferred tax expense is incrementally useful as compared to accrual measures in detecting earnings management.

If go further deep the deferred tax can also be managed because the standards require that the deferred tax assets can only be recognized if there is probable future tax liabilities and profits available against which this asset can be used. Schrand and Wong 2003; Pincus, Rego and Wang, 2004; Frank and Rego 2005; Phillips investigated the deferred tax asset account valuation account (VAA) but they found some rather contradictory results. Even though there results are contradictory, but as the standards provide managers the discretions managers can use it to manage earnings. Thus the deferred tax expense which Phillips et al (2003) used as the proxy for the earnings management may also be managed by the
managers as we mentioned earlier they under the standards have discretion to do so.

Predominantly accruals models have been used more often than cash. Manager Discretion to manage earning can also be detected by a very useful metric i.e. deferred tax expense. The deferred tax expense has also been used as a last resort to manage earnings while managers strive to meet the earning targets, as the Dhaliwal. D. S et al 2004, published paper in Journal of Contemporary Accounting Research in 2004. He conducted a study on 14,938 firms-years which included all the choice variables in that paper he also concluded that companies that have accruals higher than normal would also be more prone to use taxes to manipulate earnings to meet earnings targets. The companies that have lower projected effective tax rates by missing the agreed prediction it is therefore consistent that companies will decrease the expense on account of tax if earning management is not accomplished from other sources and would therefore lower the tax to meet earnings targets. When the tax on income is more than the actual tax payment the deferred tax liability arises. It normally happens when the booked income exceeds the taxable income. The excess amount is the liability to be paid to income tax authorities and therefore is recognized as liability in the balance sheet of the company. Deferred tax is used as metric my managers to prevent fall in earnings, to prevent loss and to beat or meet expectations of the analysts (Philips et al, 2003). Philips et al (2003) have used deferred tax expense to spot earning management. The study also evaluated application of the same research in Pakistan by evaluating the effectiveness and efficacy of the deferred tax expense in identifying the earnings management in Pakistan and to test the results to see whether the results from the methodology used by Philips et al (2003) also applies to Pakistan.

In order to detect the earning management through deferred tax two hypotheses have been developed following the Burgstahler & Dichevs (1997) & Philips et al (2003). Burgstahler & Dichevs (1997) used three intervals for earning changes i.e from 0 to 0.005, 0.01 & 0.015 to show how the firms behave in avoiding earning decline and for earning levels they used intervals from 0 to 0.01, 0.02 & 0.03 to show how the firms behave to avoiding loss. As a result of this according to Burgstathaler&Dichves (1997) findings a higher frequency of firms falls in interval of zero and small increase in annual scaled earning changes to the slightly negative earning changes interval and similarly the higher frequency of firms falling in the earning interval of 0 (Zero) and slightly positive earning intervals as opposed to slightly negative earning intervals. Hence based on above and consistent with the Philips et al (2003) we have selected the middle range that is from (-0.01 to 0) and (0 to 0.01), for avoiding earning decline. Similarly, it is (-0.02 to 0) and (0 to 0.02) for avoiding loss. Consistent with the Philips et al (2003), following are the hypothesis. This study replicated the Figure 01 for avoiding the earnings decline and to show the findings of the Burgstathaler&Dichves (1997) & Philips et al (2003). We found it again consistent with the previous researches and finding a large number of firms falling in the 0 to 0.01 as compared to -0.01 to 0 which is evident form the Figure 01. Similarly the Figure 02 has been replicated for the frequency of firms for avoiding loss again the results have been found consistent with the previous researches of Burgstathaler&Dichves (1997) & Philips et al (2003) and the large number of firm falls in the 0 to 0.02 range as compared to -0.02 to 0 scaled intervals of earning.

H1: Deferred Tax expense is incrementally useful as compared to accrual measures in detecting earning management to avoid earning decline.

H2: Deferred Tax expense is incrementally useful as compared to accrual measures in detecting earning management to avoid a loss.

**Accounting Development and Corporate tax environment in Pakistan**

Junaid Ashraf & Waqar I. Ghani wrote papers in the international Journal of Accounting on the subject of accounting development in Pakistan in 2005. According to Junaid, (2005) for more than three decades “The Colonial Companies Act 1913” was in force in Pakistan till the Companies Ordinance
1984 promulgation and has shaped the accounting development in that period. He also mentioned the role of the Asian Development Bank (ADB) and The International Monetary Fund (IMF) in determining the accounting development in Pakistan. Although the standards were readily adopted in Pakistan in 1985 but despite adopting the IAS an IFRS the quality of the reporting the financial did not improve. The failure has been attributed to the enforcement mechanism in Pakistan as Junaid, (2005) argues that the interaction among the legal, accounting and the sub-systems in the accounting information systems needs to be specifically addressed for the developing countries like Pakistan. The Standards may be readily adopted for the developed countries but special attention must be paid to devise method for the adoption of the standards in the developing countries like Pakistan to improve the quality of the financial statements and the reporting with accounting systems.

More fifty percent of listed companies at Karachi Stock Exchange (KSE) are owned by single family (Junaid, 2005). An Incentive has been provided in the Income Tax Ordinance 2001 for listing of the companies at Karachi Stock exchange to pay low taxes as compared to the unlisted companies. Despite the low taxes the tax evasion has been very common in the family owned companies. It has risen; as percentage of the Gross Domestic Product (GDP) for the last seven years rose to 11.4% from 10.6% (Junaid, 2005). In many cases triple financial reporting (i.e three types of financial statements are prepared) is done in many developing countries like Pakistan. Even though the government has imposed 0.5% turnover tax on corporations irrespective of profit or loss but still the tax evasion by group of companies owned by single family is very common and pervasive in Pakistan.

The managers have greater discretion to manage earnings under Pakistan’s accounting standards than would allow Income tax authorities under Income Tax Ordinance 2001 (tax rules). For example income tax authorities would not allow provision such as depreciation, bad debts, the revenue recognition method may cause temporary book tax differences, the accountant and the company managers make provisions for warranties, post-retirement benefits, self-insurance, restructuring and reserves generate temporary book tax differences while accounts payable, receivable, wages payable are subject to less discretion of manager under tax laws than Local Accounting Standards. The temporary book tax differences will isolate judgments used by managers form non-discretionary choices (Philips et al 2003). Timing differences is a result of different reporting rules under each system. Accounting Standards allow greater discretion to managers. The manager’s discretionary choices may create a permanent or temporary book tax differences. This paper will tests the accrual measure as compared to the deferred tax to investigate which of the metric is more useful at to detect earning management for firms that avoid earning decline or avoid losses while engaging in earnings management. The deferred tax is that part of the firm’s income tax expense which belongs to current period but will be paid in a later period. The tax amount is measured on the basis of accruals so the liability would be created if the current period income is more than the income which is computed for tax purposes hence it would lead to deferred expense. There is less discretion available for managers to manage earning under the income tax rules and therefore the managers would resort to the National standards to manage earnings while striving to achieve their earnings thresholds (Mills & Newberry, 2001), (Manzon&Plesko. 2002), (Hanlon, 2002), (Joos et al, 2002), (Plesko, 2002 in Philips et al, 2003). Hence the deferred tax is helpful in detecting the earning management.

3. Research Methodology

The portion of paper develops research hypotheses of the study. It explains the models used for empirical research. It provides an operational definition of all the variables used in the models. It also provides sample selection and data collection methods. The research design utilizes information from published financial statements in order to identify the occurrence and extent of under- and over-provision for...
deferred taxation as it would lead to increased probability of earning management along with the other accruals and changes in cash flows as control variables.

We argue that the managers have greater discretion in the reporting and managing the earnings under Accounting Standards than tax rules & regulations rules and they therefore try to manage earnings upwards if it is falling or they manage earnings to avoid the losses. While managing the earnings upwards to avoid decline in earnings or showing decline in earnings mangers would not let the current tax expense to increase. Similarly, in managing the earnings to a level that it does not fall the manager use earnings management techniques to avoid loss while keeping tax cost minimum as they may have a limited amount of loss to carry forward.

Previous researches have used various accrual models to measure the earning management. Different researchers have used different measures to proxy the irregular accruals. Healy (1985) employed total accruals, Jones (1991) employed the residuals as abnormal accrual or a substitute for earnings management from total accruals regression and forward looking model Dechow et al (1995) modified Jones (1991) model and provided adjustment for the revenue recognition criteria through adding one more variable that is the growth in the revenue. Among these accrual models the forward looking model is the most effective (Dechow et al, 1995). Jones and Modified models can better measure the abnormality in accruals and therefore the earnings management and identify use of managers discretions Gauy et al (1995). However a research as mentioned in the Philips et al (2003) by Bernard and Skinner (1996) misclassify the normal accruals as abnormal. Hence that suggests that accrual or abnormal accruals ability to or effectiveness of this metric to detect the earnings management is not reliable.

3.1 Sample Size:
Initially, all six hundred and fifty listed firms on Karachi Stock Exchange (KSE) were selected as sample. Later these firms were scrutinized as to the inclusion of deferred tax expense in their financial statements. Ultimately, only fifty eight firms were selected for analysis having deferred tax expense on their financial statements. Therefore, firms that had no deferred tax on their balance sheet were excluded. International firms, financial sectors firms were also excluded due to variation in financial reporting. Financial statements of the financial sector firms differ in great deal from the non-financial corporate sector firms; like the nature of the account receivables differs from that of the other corporate sectors.

The sample selected on the basis of convenience sampling as the data availability regarding deferred tax became the constraints in the data collection.

3.2 Data Collection:
This study used secondary data for empirical analysis. Data collected from the financial reports for the year 2005 to 2009. The study used pooled cross sectional data. The period of study has been kept to five years as the data before 2005 was not available. The period under the study is post 2001 as amended Income Tax Ordinance was promulgated in 2001. The data has been extracted from the financial reports as the only available source for the deferred component of tax in Pakistan.

3.3 Mathematical Model:
The probit regression is used because the dependent variable is dichotomous. The ordinary least square regression may lead to inappropriate results. This study used a probit regression model following Phillips et al (2003). Empirical analysis conducted using pooled cross sectional data:

\[ EM_{it} = \alpha + \beta_1 DTE_{it} + \beta_2 ACC_{it} + \beta_3 \Delta CFO_{it} + \epsilon \]

Where
\( EM_{it} = \) (1) if the change in firm i’s net income from year \( t-1 \) to \( t \) divided by the market value of equity at the end of year \( t-2 \) is equal to 0 to 0.01 and (0) if the change in firm i’s net income from year \( t-1 \) to \( t \) divided by the market value of equity at the end of year \( t-2 \) is greater than or equal to -0.01 to 0. and

(1) if the in firm i's net income at year \( t \) divided by the market value of equity is 0 to .02, and (0) if the firm i’s net income divided by the market value of equity at the end of year \( t-1 \) is -0.02 to 0

\( DTE_{it} = \) firm i’s deferred tax expense in year \( t \), scaled by total assets at the end of year \( t-1 \)

\( ACC_{it} = \) a measure of firms i’s accruals in year \( t \)

\( \Delta CFO_{it} = \) the change in firm i’s cash flows from continuing operations from year \( t-1 \) to \( t \) scaled by total assets at the end of year \( t-1 \)

\( \epsilon = \) the error term

3.4 Variables:

- Earnings Management

Since EM is binary dependent variable a probit regression model is used. Logit regression model can also be used but as Philips et al (2003) used probit model this study would use the same model to evaluate results of the Philips et al (2003) study. The selection criterion for the sample companies to be used in analysis for (1) avoiding the earnings decline; the firm years generated range of firm years from 181 to 79. More than 61% of the firms years scaled earning changes that fell from zero or slightly positive i.e. \( \geq 0 \) to <0.01 or EM\(_1\)=1.

Similarly the sample for the earnings management of the avoiding loss; is selected using same criterion and the sample size for this analysis range from 181 to 87 firm years. This becomes the sample of firms years for the study probit regression analysis of (2) avoiding loss. Approximately 87% of the firms sample fell in the zero or slightly positive i.e. \( \geq 0 \) to <0.02 or EM\(_2\)=1. The sample also includes the just missed sample i.e. \( \geq 0.02 \) to <0 or EM\(_2\)=0 as control variable.
• **Deferred Tax Expense**

The deferred tax expense is taken as the proxy for the book tax difference and will be computed as per the statement of the financial accounting standard board (SFAS 109 (FASB 1992). That would use the balance sheet approach for deferred tax expense this is in conformity with Philips et al (2003). According to Statement of Financial Accounting Standard board 109 the temporary differences are to reverse in future whereas the other difference i.e permanent difference will not reverse. The temporary differences will either cause temporary deferred tax assets or liabilities. If firms are resorting to
recognizing revenue or defer some expenses whereas the same is not allowed under the tax rulings, it would lead to deferred tax liabilities which will be a deductible from income in future. According to Philips et al (2003) the net increase in the current liabilities of deferred tax would result in allowing firms to show more pre-tax incomes and lesser the liabilities of deferred tax they would show less pre-tax incomes. The deferred tax expense or benefit is equal to the difference of two periods (SFAS 109). In this study the deferred tax expense is taken as substitute for the book tax variances and a metric or one variable for investigating the usefulness of the variable in detecting the earning management while manager strive to achieve earning threshold.

Along with the two hypotheses above Philips et al (2003) also developed and tested a third hypotheses but as the information and data about analysts forecast in not available in Pakistan so it is not possible at this stage to test the third hypotheses. Hence we will not be taking into account the third hypotheses of the (Phillips et al, 2003). Following Philips et al, (2003) earning management model to investigate earning management to prevent a fall in earnings and to prevent loss with the help of deferred tax expense and three accruals as proxy for earning management the three accruals includes Healy, Jones and forward looking Model.

- **Accruals**

  ACCit is computed with the three accrual models which are Healy (1985 ) Total Accruals, Jones (1991) Abnormal accruals model and the Forward Looking Model. This study used all three accruals model. The Accruals, Deferred Tax Expense (DTE) and Δ in CFO are scaled by lagged total assets which are in conformity with the Philips et al (2003). To calculate the ACCit for the probit model, any of the three models i.e. Healy, Jones and Forward looking model is used to test the ACCit each time for Hypotheses. Following the Philips et al (2003) & Healy (1985) calculation of total accruals is done through following model which has been used extensively in previous researches.

  \[
  TA_{it} = EBEI_{it} - (CFO_{it} - EIDO_{it})
  \]

  Or

  \[
  TA_{it} = EBIT_{it} - CFO_{it}
  \]

  \(TA_{it}\) = Firm i’s total accrual in year t

  \(EBEI_{it}\) = firm i’s income before extraordinary items in year t

  \(CFO_{it}\) = firm i’s cash flows from operations in year t

  \(EIDO_{it}\) = firm i’s extraordinary items and discontinued operations from the statement of cash flows in year t

- **Modified Jones Model**

  As Dechow et al (1995) discussed a limitations of the Jones Model in which it was argued that it cannot capture the effects of manipulation based on sales, due to changes in revenue or sales, it is assumed that nondiscretionary accruals will rise. Hence to account for the manipulation that is based on sales, Dechow et al (1995) suggested an adjustment to Jones model. Both Models are same except that the change in debtors (\(\Delta REC\)) is subtracted from (\(\Delta REV\)) at 2\(^{rd}\) stage. Therefore in this model it is implicitly assumed that all changes in credit sales in the event period result from EM. In tests comparing the power both models the modified Jones Model indeed significantly better spot earnings management that is based on sales (Dechow et al, 1995).
\[ TA_{cit} = \alpha + \beta_1(\Delta Sales_{it} - \Delta AR_{it}) + \beta_2PPE_{it} + \epsilon \]

\[ \Delta Sales_{it} = \text{the change in firm i's sales from year t-1 to t} \]
\[ \Delta AR_{it} = \text{the change in firm i's accounts receivable from operating activities from year t-1 to t} \]
\[ PPE_{it} = \text{firm i's year t gross property, plant, and equipment} \]
\[ \epsilon = \text{the error term} \]

- **Forward looking model**

  Three adjustments have been made in the forward looking model models. First not all the increase in the credit sales is considered normal instead a part of the increase in the credit sales is considered as normal accruals. This is done by regressing the change in the accounts receivable on change in sales. The second change is in the portion of total accruals as it is assumed as predictable and are scaled by lagged total accruals of (t-2). Third is addition of future sales growth which accounts for the abnormal increases in the inventories in the wake of anticipated higher sales. The future sales growth would neutralize the effect of discretion used in managing inventories. The future data of sales will be used to arrive at the normal accruals with this model.

\[ TA_{it} = \alpha + \beta_1(\Delta Sales_{it} - (1-k)\Delta AR_{it}) + \beta_2PPE_{it} + \beta_3TA_{it-1} + \beta_4Sales_{it+1} + \epsilon \]

\[ \Delta Sales_{it}= \text{It is the change in firm i's sales from year t-1 to t} \]
\[ \Delta AR_{it} = \text{the change in firm i's accounts receivable from operating activities from year t-1 to t} \]
\[ \beta_2PPE_{it} = \text{firm i's year t gross property, plant, and equipment} \]
\[ k = \text{the slope coefficient from a regression of } \Delta AR_{it} \text{on } \Delta Sales_{it} \]
\[ TA_{it-1} = \text{firm i's total accruals from the prior year, scaled by year t-2 total assets} \]
\[ Sales_{it+1} = \text{the change in firm i's sales from year t to t + 1, scaled by year t sales} \]
\[ \epsilon = \text{the error term} \]

4. **Analysis and Discussion**

We can graphically trace the evidence of the relationship between the deferred tax expense scaled by the total assets with the earnings changes and earnings levels at and around the earnings thresholds. The same has been shown in the figure 04. The Figure 04 is showing a histogram of the mean deferred tax expense with the changes in the earnings scaled by the market value of equity that fall in with the interval of 0.01 of market value and range from -0.10 to 0.10. We can see that mean deferred tax expense(DTE) for the earning interval of 0 to 0.01 that is in the range of slightly positive or zero earning changes interval is 0.004. Similarly mean deferred tax expense (DTE) for the just missed interval that is the interval of earning changes that fall in -0.01 to 0 is -0.003. Results are consistent with the Philips et al study (2003). Following the Philips et al (2003) we have also plotted graphically Total Accruals to interval of earnings changes and found that mean total accruals increases in the zero and slightly positive earnings changes interval the results have not been shown in this study.

Similarly the histogram for the mean deferred tax expense by scaled earnings levels have been shown in Figure 05. The scaled earnings levels have the interval of 0.01 and the range is from -0.10 to 0.10. As it has been mention in the previous research of Philips et al (2003) that due to the tax benefits of losses, the mean deferred tax expense (DTE) is negative for all loss intervals but it becomes positive for the earnings interval of zero or slightly positive. The mean deferred tax expense for the zero and slightly positive earnings intervals is 0.004 where as it is -0.007 for the earnings levels of slightly negative
interval.

Mean Deferred Tax Expense Distribution across Scaled Earning Interval

Figure 03

Mean Deferred Tax Expense Changes Scaled by Market Value of Equity

Figure 04
The descriptive statistics of Table 01 shows the summary statistics for the data. In the Panel 01 of the table 01 the summary statistics are shown for the comparison of firms with the zero or slightly positive earnings. The mean deferred tax expense for the firm years EM=1 i.e. firm years with zero or slightly positive earnings changes has a mean of 0.0072 or 0.72 percent of the firms beginning of the year’s total assets and the median for the same is 0.0049. The smallest and the largest values are -0.0681 to 0.0746 respectively. The mean for the Total Accruals is 0.0535 or 5.35 percent of the firms beginning of the year’s total assets whereas the median for the Total accruals is 0.0491. Largest and the smallest values are 0.6045 and -0.4996 respectively. As we can see that Total Accruals are showing very large figures as compared to the deferred tax expense. Mainly because total accruals are taken before tax and therefore is expected to show a larger figures as compared to the deferred tax expense (Philips et al 2003). Some of the total accruals are negative figures and the reason for the negative figure is attributed to the accruals of depreciation and amortizations. In the EM=0 or the slightly negative earnings changes control sample the mean deferred tax expense is 0.0071 or 0.71 percent and median is 0.0022. The smallest and the largest values for the deferred tax is -0.0428 and 0.1110 respectively. The total accruals
have a mean of -0.0185 and a median of -0.0015. The smallest and the largest values for the total accruals is -0.3266 and 0.4302 respectively. Unlike Philips et al (2003) which shows positive abnormal accruals for both the samples, the abnormal accruals for our samples of EM=1 is positive whereas for EM=0 it is negative.

The two samples have been compared as it is expected that firms that smooth its earnings upward while trying to avoid a reporting of earnings declines the smoothening of earnings should affect the activity. Therefore, the deferred tax expense and the accruals values are expected to be higher in the firms with earnings management activity than that of the control sample of firms i.e. the EM=0. The results in Table 01 shows consistent results with the Philips et al (2003) as the deferred tax expense and total accruals both have significant and larger means and median in the EM=1 sample as compared to the control sample of EM=0.

The Panel 02 of the Table 01 shows the descriptive statistics of the earnings levels of the firm years. The statistics are showing consistent results with the Philips et al (2003) and with deferred tax expense identifying the earnings management activity to avoid a loss. The deferred tax expense mean for the interval of 0 to less than 0.02 is or for the firm years EM=1 i.e. firm years with zero or slightly positive earnings levels has a mean of 0.0076 or 0.76 percent of the firms beginning of the year’s total assets and the median for the same is 0.0041. The smallest and the largest values are -0.006811 to 0.11096 respectively. The mean for the Total Accruals is 0.04787 or 4.7 percent of the firms beginning of the year’s total assets whereas the median for the Total accruals is 0.04183. Largest and the smallest values are 0.6045 and -0.4996 respectively. As we can see that Total Accruals are showing very large figures as compared to the deferred tax expense. Mainly because total accruals are taken before tax and therefore is expected to show a larger figures as compared to the deferred tax expense (Philips et al 2003). Some of the total accruals are negative figures and the reason for the negative figure is attributed to the accruals of depreciation and amortizations. In the EM=0 or the slightly negative earnings changes control sample the mean deferred tax expense is 0.0055 or 0.55 percent and median is -0.0006. The smallest and the largest values for the deferred tax is -0.0364 and 0.0856 respectively. The total accruals have a mean of -0.0039 and a median of -0.0218. The smallest and the largest values for the total accruals is -0.3213 and 0.2870 respectively. Unlike Philips et al (2003) which shows positive abnormal accruals for both the samples, the abnormal accruals for our samples of EM=1 is positive whereas for EM=0 it is negative.

There is a positive relationship in the changes in net income and the change in operating cash flows, Dechow (1994) and Philips et al (2003), and a negative correlation between changes cash flows from operations and the total accruals this is consistent with Philips et al (2003) and Sloan (1996). The earnings management variable and the deferred tax expense variables shows positive but small correlation for both the earning changes and earnings levels. Earnings management variable and the total accruals variable also show small positive correlation for both earnings changes and earnings level. Correlations between abnormal accruals and the earnings management variable is also positive but insignificant as it is in in the Total accruals case. As opposed to the Philips et al (2003) and Hanlon (2002) which suggest that multicollinearity between deferred tax expense (DTE) and accrual measures is not an issue but our result of correlations show a positive correlation between deferred tax expense and the all accrual in all three settings.

4.1 Probit Regression Results
Unlike Philips et al (2003) results of our research provide little or no evidence of the incremental usefulness of the deferred tax expense. Hence each accrual measure of earnings management to avoid earnings decline and to avoid a loss shows results of inconsistency with the previous research and the results and the setting of Pakistan and Pakistani companies show differing results. We have tabulated results of our research similarly to as it was done by Philips et al (2003). To compare the deferred tax
expense usefulness against the other three accrual variables and measures, to compare if there is any usefulness and to compare the results as per pattern given by the Philips et al (2003).

Table 02 shows results of the deferred tax expense and total accruals for comparison and usefulness test of both the hypotheses. Similarly Table 03 show results of the deferred tax expense and the abnormal accruals calculated through Jones model and Table 03 shows results comparison for the deferred tax and abnormal accruals calculated with Forward Looking Model.

We have tabulated and present the results of the research as per Philips et al (2003) pattern and the Tables 02 shows probit regression results with deferred tax and the total accruals variables. The tables show two settings that is scaled earning changes and the scaled earning levels. As we have not tested the third hypothesis of the Philips et al (2003) paper. The third panel in table is not mentioned in all three tables in comparison as it was mentioned in the Philips et al (2003) paper. The reason for which is already mentioned above. In the tables the scaled earning changes shows the results of the probit model for avoiding an earnings declines and the scaled earnings level shows results of probit model to avoid a loss.

<table>
<thead>
<tr>
<th>Table 02</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probit Regression Results for Comparison of Deferred Tax Expense to Total Accruals</strong></td>
</tr>
<tr>
<td>[ \text{Scaled Earning Changes} ]</td>
</tr>
<tr>
<td>n=181</td>
</tr>
<tr>
<td>Intercept</td>
</tr>
<tr>
<td>DTE</td>
</tr>
<tr>
<td>TA</td>
</tr>
<tr>
<td>[ \text{Scaled Earnings} ]</td>
</tr>
<tr>
<td>n=181</td>
</tr>
<tr>
<td>Intercept</td>
</tr>
<tr>
<td>DTE</td>
</tr>
<tr>
<td>TA</td>
</tr>
<tr>
<td>[ \text{No. of Correct Predictions} ]</td>
</tr>
<tr>
<td>73.48%</td>
</tr>
<tr>
<td>[ \text{Log Likely Hood} ]</td>
</tr>
<tr>
<td>-105.5132</td>
</tr>
</tbody>
</table>

Where
- **DTE** Deferred tax expense scaled by the total assets of previous year i.e t-1
- **Total Accruals** Total accruals are computed by subtracting cash flows from operations from earning before extra-ordinary items and then it is scaled by the total assets of the previous year’s i.e t-1
- **CFO** Cash flow from year t scaled by the total assets of the year t-1
- \[ \Delta \text{in CFO} \] Is Change in Cash flow from year t to t-1 scaled by the total assets of the year t-1

In Table 02 we can see that the results are in contrary to the previous research of Philips et al (2003) and show the total accrual (TA) have a coefficient of 4.70821 as compared to the deferred tax expense (DTE) which is 3.980479 with P value of 0.3801which show that Total accruals is a better measure and measuring the earnings management through accruals is better. Although both variables has a positive and higher coefficient and are also significant i.e. P value for the deferred tax is 0.3801 whereas it is <0.0001 for total accruals. As expected the Changes in cash flows are positive with 3.719364 and P value of <0.0001.

Similarly the results for the scaled earnings changes in the table 02 shows a negative coefficient for the deferred tax expense by -1.61972 with P value of 0.8168 as compared to the total accruals coefficient of 12.19225 with P value of <0.0001. With these results we can see that in both the above settings the incremental usefulness of the deferred tax hypotheses is rejected. As the deferred tax expense has
insignificant P value in both the above setting, hence, we can say that total accruals are incrementally useful measure as opposed to deferred tax expense in identifying the earnings management to avoid an earnings decline and to avoid a loss.

<table>
<thead>
<tr>
<th>Table 03</th>
</tr>
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<tbody>
<tr>
<td>Probit Regression Results for Comparison of Deferred Tax Expense to Modified Jones Abnormal Accruals</td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Intercept</td>
</tr>
<tr>
<td>DTE</td>
</tr>
<tr>
<td>MJ Acc</td>
</tr>
<tr>
<td>ΔCFO &amp; CFO</td>
</tr>
<tr>
<td>No. of Correct Predictions</td>
</tr>
<tr>
<td>Log Likely Hood</td>
</tr>
</tbody>
</table>

Where

- **DTE** refers to Deferred tax expense scaled by the total assets of previous year i.e t-1.
- **Abnormal Accruals Jones** refers to Modified Jones model is used following Dechow et al (1995) by deducting normal accruals from the Total Accruals. The Normal Accruals are calculated using Jones model as TAccit = α + β1(ΔSalesit – ΔARit) + β2 PPEit + ε. The change in sales is calculated by subtracting sales of previous year (t-1) from sales of the current year (t) similarly the change in the accounts receivables is arrived at by deducted previous years receivables (t-1) from current years (t). PPE is gross property plant and equipment. All the variables are scaled by the total assets of previous year.
- **CFO** refers to Cash flow from year t scaled by the total assets of the year t-1.
- **Δ in CFO** refers to Change in Cash flow from year t to t-1 scaled by the total assets of the year t-1.

In Table 03 also the results are similar to Table 02 and therefore is in contrary to the previous research of Philips et al (2003) and show the abnormal accruals (MJ Acc) have a coefficient of 4.42221 with P value of <0.0001 as compared to the deferred tax expense (DTE) coefficient of -3.3336 with P value of 0.6234 which again shows that abnormal accruals calculated through Jones Models is a better measure and measuring the earnings management through accruals is better as Deferred tax expense is also insignificant. As expected the changes in cash flows are positive with 3.6736 and has a P value of <0.0001.

Similarly the results for the scaled earnings changes in the table 03 shows a negative coefficient for the deferred tax expense by -3.3364 with P value of 0.6234 as compared to the total accruals coefficient of 11.60549 with P value of <0.0001. Again as in both the settings the deferred tax expense variable is insignificant. Therefore the total accruals are incrementally useful measure as opposed to deferred tax expense in identifying the earnings management to avoid an earnings decline and to avoid a loss.

<table>
<thead>
<tr>
<th>Table 04</th>
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<tbody>
<tr>
<td>Probit Regression Results for Comparison of Deferred Tax Expense to Forward Looking Model</td>
</tr>
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</table>
The results of the table 04 shows that deferred tax expense has a coefficient of -0.683721 and P value of 0.9314 as compared to the accruals calculated through Forward Looking model which has the coefficient of 8.06217 with P value of 0.0045 for the earnings changes to avoid earnings decline and for . Similarly in the scaled earnings i.e. to avoid a loss sample the deferred tax expense (DTE) has a coefficient of -3.143668 with P value of 0.7324 as compared to the abnormal accruals calculated through the forward looking model which has coefficient of 16.48475 with P value of 0.0129. Hence in all the above settings it can be seen that Deferred tax expense in not incrementally useful beyond total accruals.

Number of correct predictions

As the R square measure of OLS is not applicable to binary dependent variables in probit regression model a number of correct predictions have been used. The number of correct predictions for each calculation is given above in table 02, 03 and 04 which shows that all the three tables shows the number of correct predictions over 71% which is significant.

5. Limitations

The data availability has been one of the biggest constraints for our study as the main variable under the study is deferred tax expense and that component was missing in the State Bank of Pakistan Publication Balance Sheet Analyses of listed companies on KSE. Therefore, this study resorted to financial reports of individual companies and as it was not possible to go beyond five years we kept our study limited to span of five years.

The results may bring some difference if the study is spanned over the ten years period of firm and with the inclusion of more firms.

No sensitivity tests were conducted in this study. Company performance can provide some evidence

<table>
<thead>
<tr>
<th>Abnormal Accruals</th>
<th>Scaled Earning Changes</th>
<th>Scaled Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=78</td>
<td>P value</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.355902</td>
<td>0.0225</td>
</tr>
<tr>
<td>DTE</td>
<td>-0.683721</td>
<td>0.9314</td>
</tr>
<tr>
<td>FL Acc</td>
<td>8.062171</td>
<td>0.0045</td>
</tr>
<tr>
<td>ΔCFO &amp; CFO</td>
<td>2.48318</td>
<td>0.0143</td>
</tr>
<tr>
<td>No. of Correct Predictions</td>
<td>71.59%</td>
<td></td>
</tr>
<tr>
<td>Log LikelyHood</td>
<td>-45.32748</td>
<td></td>
</tr>
</tbody>
</table>

Where

DTE = Deferred tax expense scaled by the total assets of previous year i.e t-1

Total Accruals = Total accruals are computed by subtracting cash flows from operations from earning before extra-ordinary items and then it is scaled by the total assets of the previous year’s i.e t-1

FL Acc = It is computed by deducting normal accruals computed by forward looking Jones model (Dechow et al. 2002). The normal accruals with the forward looking models are computed as TA cicit = α + β1(ΔSalesit –(1 – k)ΔARit) + β2 PPEit + β3 TAccit-1 + β4 Salesit+1 + ė. In this equation the k is slope coefficient of change in accounts receivable on change in sales and is result of regression. Total accruals are scaled by Total Assets(t-2) i.e. total assets of 2nd last year. Salesit is change in sales from t to t+1 divided by t.

CFO = Cash flow from year t scaled by the total assets of the year t-1

Δ in CFO = Is Change in Cash flow from year t to t-1 scaled by the total assets of the year t-1
about the usefulness of the deferred tax expense if in the probit regression three more control variables are incorporated which are assets growth, growth, and the average return on assets. But as our study it is not useful we cannot go on and see the affects of these variables because the initial tests show insignificant results.

In this study while we were investigating the incremental usefulness of the deferred tax expense with the other accrual measures in detecting the earnings management to avoid loss must be further investigated to find out if the change in cash flow against the level of cash flows is taken to measure the performance of the company.

6. Conclusion

The managers have generally more discretion in Accounting Standards (i.e. IAS or GAAP) than in tax rules and thus would allow managers to manage earnings. Although there are other methods available to detect the earnings management i.e accrual models but we have tested the incremental usefulness of the deferred tax expense in detecting earnings management. It is expected that the mangers would manage the earnings upward while remaining within the Accounting Standards and would do so by not increasing the current income taxes payable. Hence that earnings management behavior will ultimately result in temporary book tax differences and would result in higher deferred tax expense. The evidence of this study has been built on the basis of studies of Burgstahler and Dichev (1997), Degeorge et al. (1999) Mills and Newberry (2001) and on the evidence of a significant measurement error in accrual measure in Guay et al. (1996) these studies are mention in Philips et al. (2003). The incremental usefulness of the deferred tax expense is evaluated to detect the earnings management for two earnings targets i.e to last year’s earnings and zero earnings.

The results are inconsistent with the previous research of Philips et al. (2003) in which it was concluded that the deferred tax expense is incrementally useful in detecting the earnings management. According to the results of our study the accrual measures of all three models are significant, and therefore are useful in the detection of earnings management whereas the deferred tax expense is consistently insignificant and is not incrementally useful beyond the other accrual models of total accruals, modified Jones mode of abnormal accruals, and forward looking abnormal accruals in both the cases of detecting the earnings management i.e for earning decline and avoiding a loss.

Hence based on our study we can concluded that in Pakistan the deferred tax expense is not incrementally useful along with the other accrual measure of total accruals, modified Jones abnormal accruals and Forward looking mode of abnormal accruals. Hence as the results differ for the Pakistani Scenario it may also differ for the sub continent firm or more over for the Asian firms. As contrary to Philips et al. (2003), the deferred tax expense cannot supplement accruals measures in detecting earnings management to avoid and earnings decline and to avoid a loss as the results for the both the cases have insignificant results for the Pakistani firms. However, the study may yield slightly different results if the span of study is expanded to ten years and by including more number of firms.

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Quest for Alternative Sociological Perspectives on Corporate Social and Environmental Reporting

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Objective: The purpose of this paper is to review existing dominant theoretical perspectives used in corporate social and environmental accounting research, identify their limitations and to suggest some alternative theoretical perspectives for further research.

Methodology: In order to identify relevant research papers, on the use of different theoretical perspectives on corporate social and environmental accounting research, published in academic journals, different keywords were searched in google scholar. Research papers were then shortlisted according to their relevance to the topic.

The results: Among all theoretical frameworks, there is a great variety but accounting researchers remained selective in their use of the theory and some other aspects of the theory remained unexplored. Apart from this narrow application, repeated application of same theories, especially legitimacy and stakeholder theory) provide very little additional insights.

Implication: The dominant theoretical perspectives on CSER do not fully capture the complexity of the phenomenon. This situation demands researchers to explore alternative theoretical perspectives for better and insightful research. The main contribution of this paper is that it suggests the theory of realistic evaluation (RE) and the institutional logics perspective (ILP) as alternative sociological perspectives. This paper invites future researchers to apply these theoretical frameworks and to explore their usefulness.

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Legitimacy Theory
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Institutional Logics Perspective
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Corporate Social And Environmental Reporting

JEL Classification:
C78, C79, K32

1. Introduction

Corporate social and environmental reporting (CSER) is a complex phenomenon due to the various complexities at “macro” or “political economic” level, “meso” or “organisational” level and ‘micro’ or
individual level. Despite of these complexities very often research on CSER come up with various explanations without acknowledging these differing contexts at different levels. Moreover explanations are largely restricted to explaining social phenomena at the level of happenings (empirical level) without an attempt to go beyond that and trying to identify the mechanisms and structures which generate such happenings. This lack of breadth and depth in explanation limited our ability to understand/evaluate “why” and “how” CSER is done and what impact it is having towards organizational change for better social and environmental performance (Adams & Whelan, 2009). This limited explanation ultimately impacts our ability to understand how change towards better social and environmental performance might occur which is the main desire of researchers in this field (Adams & Larrinaga-González, 2007; R. Gray, 2002).

There is a need for diverse and in-depth explanations for CSER and their impact on social and environmental performance (Bebbington, Larrinaga, & Moneva, 2008). Such explanation shall move from empirical level and takes into account the complexity of both external and internal context. Such explanation should also include the mechanisms that might lead organizations to report on their social and environmental issues (Adams, 2002). In this regard, there is a need for the use of more subtle theoretical lenses and methodologies so as to provide additional insights and to contribute towards theoretical understanding and development (Parker, 2005).

Extant research on CSER uses a very limited range of theoretical lenses. The vast majority of research uses legitimacy theory, stakeholders’ theory and institutional theory as the main conceptual basis. This limited choice of theory has implications for the limited insights on CSER. The main aim of this paper is to review main theoretical perspectives used in the CSER field, identify their limitations and to suggest some alternative perspectives for future research. More specifically this paper suggests the Institutional Logics Perspective by and the theory of Realistic Evaluation by Pawson & Tilley (1997) as alternative perspectives. The paper is organised into three main sections. First section presents the critical review of dominant sociological perspectives in CSER. Limitations are identified in second section which is followed by a section three which suggests two alternative perspectives.

2. Dominant Perspectives on Corporate Social and Environmental Reporting

R. Gray, Kouhy, & Lavers (1995) has classified various theoretical perspectives on CSER into three groups – decision-usefulness studies, economic theory studies, social and political theory studies. However, according to them, theoretical perspectives drawn from social and political theory provide more interesting and insightful research. Therefore as the first departure point this review is only based social and political theory based perspectives. Three dominants theoretical perspectives that are used by researchers under this group include -legitimacy theory, stakeholders’ theory and institutional theory. Legitimacy theory and stakeholders’ theory is linked to political economy while institutional theory is linked to social theory (Deegan & Unerman, 2011).

An important part of this review is the ability of these theoretical perspectives to capture the diverse and in-depth multi-level explanations for the phenomenon due to complexities at various levels. In recent categorisation of theories used in social accounting, Rob Gray, Owen, & Adams (2010) used the notion of level of resolution and categorised different theories as meta-theories, meso-theories and micro-theories. These three categories of theories differ in their level of resolution with meta-theories having low resolution while micro-theories provide higher resolution. In terms of their focus, the higher level is most abstract (abstracted from empirical conditions) while the low level is more specific than ground experience (Llewelyn, 2003). They argue that these different lenses will provide different understanding at different levels of resolution and no single lens can fully explain the phenomenon as it only captures a
part of the picture either from the broad or narrow perspective. Based on these arguments, this review of theories will explore the explanatory potential and contribution of each of the theories. Specifically, it will look into the level of resolution a theory provides and whether the theory is capable of providing multi-level explanations and taking into account the complexity of external and internal contexts.

2.1 Legitimacy Perspectives

Legitimacy theory is the most widely used theoretical lens to explore why corporate managers initiate CSER and disclose particular items of social and environmental information (Deegan, 2007; Deegan & Unerman, 2011; Owen, 2007). There are two main variants of legitimacy theory: institutional and strategic/instrumental (Deegan & Unerman, 2011; Suchman, 1995). Institutional legitimacy goes back to the writings of DiMaggio & Powell (1983, 1991) and emphasise more on cultural embeddedness than agency. Strategic/instrumental legitimacy goes back to the writings of Ashforth & Gibbs (1990) and Dowling & Pfeffer (1975) which emphasise more on agency. However, they shall be considered as two sides of the same coin (Suchman, 1995), or two levels of analysis (Tilling & Tilt, 2010). The institutional view is outside-in (society looking in and imposing conditions) while the strategic view is inside-out (managers looking out and working to secure legitimacy).

Most of the research related to CSER tends to draw its understanding of legitimacy from the second variant and is largely built on its articulation by (Lindblom, 1994) in an unpublished paper presented in a CPA conference (R. Gray, et al., 1995; Parker, 2005). According to Lindblom (1994, p. 2), legitimacy is “... a condition or status which exists when an entity’s value system is congruent with the value system of a larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two values there is a threat to the entity’s legitimacy”. Legitimacy theorists argue that firms have a ‘social contract’ with the broader society and that they seek to achieve a ‘fit’ between their value system and that of society (Deegan, 2007; Deegan, Rankin, & Tobin, 2002). Under legitimacy theory, CSER is “...understood to be motivated by a desire to demonstrate corporate conformity with societal expectations”(Owen, 2007, p. 247).

Legitimacy is perceived as a resource upon which organisation survival is dependent (Dowling & Pfeffer, 1975; O’Donovan, 2002). Managers are considered to be the manipulator of that resource and if they perceive a legitimacy gap they try to regain this through legitimation strategies (Suchman, 1995). These legitimation strategies can be substantive and/or symbolic (Ashforth & Gibbs, 1990) and vary depending upon whether an organisation is trying to gain, maintain or repair legitimacy (O’Donovan, 2002). These strategies include informing and educating an external audience, trying to change their perceptions, deflecting their attention to other issues, or trying to change their expectations (Lindblom, 1994). This means that communication, in the form of disclosure of information to ‘relevant publics’, is essential for influencing legitimacy. Therefore corporate disclosures and reporting can be considered as legitimising devices as part of these legitimation strategies (R. Gray, et al., 1995).

There are several studies that have found evidence that is consistent with this conceptualisation. These studies provide some useful insights about the managerial motivation of particular reporting and disclosure practices. For instance, Deegan (2002) found a linkage between unfavourable media attention and disclosure of environmental information. Similarly, Cho & Patten (2007) suggest that firms with poor environmental performance or those operating in environmentally sensitive industries are more likely to disclose environmental information as a legitimising tool. There are a number of limitations of legitimacy theory. A number of researchers have contested the explanatory power of legitimacy theory. According to Adams (2002), legitimacy theory is limited due to the fact that it does not consider factors
related to the social reporting processes as much as the attitudes of the agents. It does not explain how attitudes of agents are themselves shaped. It does not explain why different managers perceive legitimacy threats differently and are involved in different legitimation strategies (Deegan, 2002). Also, the “external audience” is portrayed as a homogenous group instead of being heterogeneous, with differences in interests and power (O’Dwyer, 2002) among various stakeholders.

Legitimacy theory is very much under-developed. In reality attitudes, priorities and institutions of corporate managers (as well as external audience) are guided by a complex range of internal and external factors that result in different ways of how they are motivated about the need for reporting and go about it. This has been confirmed by Adams (2002) in her study of the English and German firms in which she found internal factors to be extremely important in their influence on the quantity and quality as well as the scope of CSER in both countries. Apart from these limitations of the legitimacy theory, it has also been applied in a narrow fashion by accounting researchers. According to Mobus (2005), accounting literature emphasised the strategic conceptualisation of legitimacy which is narrow.

Although the legitimacy theory as proposed by Suchman (1995) is well-developed, the legitimacy theory framework of Lindblom (1994) still dominates the accounting research which is largely reactive in nature. Organisations are suggested as conformists in that version of legitimacy theory (Guthrie & Parker, 1989). Apart from some noticeable exceptions, legitimacy theory within accounting literature has been concerned largely with this reactive nature of organisational disclosure. The major emphasis of these studies has been on the attempts of the corporate managers to (re)build or repair legitimacy. In addition to this, these studies investigate legitimisation as a reactive process and a short-term phenomenon (Tilling & Tilt, 2010). For better understanding of legitimacy dynamics, due consideration shall be given to both cultural embeddedness and an agential perspective which is missing from the literature.

2.2 Stakeholder Perspectives

Stakeholder theory is second frequently used theoretical lens in the CSER literature. Stakeholder studies extended the work of Ullmann (1985) on relating the stakeholder perspective to CSER and disclosure. Stakeholder theory (Clarkson, 1995; Edward, 1984) is concerned with the effect of the environment on organisations. However, it does not consider the environment as a whole. It focuses on the relationship between organisations and its various stakeholders which constitute the environment (Berman, Wicks, Kotha, & Jones, 1999; Chen & Roberts, 2010). This relationship has two elements: stakeholders affecting firms and firms affecting stakeholders. These two elements are represented in two variants of stakeholder theory: normative ethical stakeholder theory which suggests the moral obligation of firms towards all stakeholders and instrumental stakeholder theory which suggests the strategic management of key stakeholders (Berman, et al., 1999).

Both variants of stakeholder theory are discussed in the CSER literature. In both variants, disclosure and reporting are seen as part of the dialogue between the company and its stakeholders (R. Gray, et al., 1995). From the normative (ethical) perspective, CSER can be seen as a mechanism to discharge accountability towards all stakeholders. From the instrumental (strategic) perspective CSER can be seen as a managerial tool or instrument to manage powerful stakeholders (Deegan, et al., 2002). Stakeholder demands ultimately influence the decisions concerning the what to disclose and how to disclose in the sustainability reports.

Empirical research has confirmed the role of stakeholders as an important determinant of social and
environmental activities and disclosure (Roberts, 1992). Primary stakeholders were found to be concerned about the extent to which disclosure or non-disclosure leads to some effect on the financial returns either in the form of an increase in reputation or by gaining a competitive advantage. However, secondary stakeholders were found to place greater importance on CSER and want it to be transparent and are concerned with society and the environment (Tilt, 2007). The relative power of stakeholders was found to be an important determinant of sustainability disclosure (Roberts, 1992).

There is evidence that stakeholders put heterogeneous demands on organisations and some of them are likely to be conflicting and mutually exclusive. In the presence of these conflicting demands, managers determine the range of stakeholders and their demands they seek to address (Unerman, 2007). This choice is dependent on their motives of engaging in CSER. Stakeholder theory considers these motives to be either normative or instrumental. Through stakeholder perception studies, some researchers provide normative expectations of stakeholders in different contexts. In order to discharge accountability towards all stakeholders, which is considered to be the main motivation under the normative branch of stakeholder theory, actual practices should reflect these expectations. In contrast, researchers found different evidence that is more consistent with the predictions and explanations of instrumental stakeholder theory (Belal, 2002).

In an extensive stakeholders-based study, Belal & Roberts (2010) found that disclosure practice in Bangladesh, opposite to the expectations of stakeholders, appear to be grounded in the normative perspective of stakeholders. They found that the current practice of reporting is largely a cosmetic response to pressures from the international market. These results are consistent with the results of some earlier studies. In an interview-based study of corporate managers in Bangladesh, Belal & Owen (2007) reveal that the major motivation of managers for social reporting lies in a desire on the part of corporate management to manage powerful stakeholder groups. They also express concerns over the potential of such reporting towards accountability, especially when social standards are imposed from outside without consideration of local cultural, economic and social contexts. Similarly, Islam & Deegan (2008), by applying stakeholder theory, find that operating and disclosure policies of the organisation under study reacted to the expectations of the multinational buying companies – the group deemed to be the most powerful.

Overall, stakeholder theory in CSER provides some useful insights in terms of highlighting the influence of powerful stakeholders, instrumental logic of managers and use of reporting as a tool to manage these powerful stakeholders. Much of these explanations (e.g. instrumental logic) can also be explained by legitimacy theory by lowering the level of resolution and considering society as a homogenous group. By specifying various stakeholders and how they influence reporting, stakeholder theory provides a better resolution. However, both of these theories provide insights into the presence of some sort of pressure and explain how these pressures are accommodated by companies in their reporting in a reactive way. As they focus on pressures, they focus on external factors while internal factors (like attitudes, priorities and institutions) of managers and stakeholders are ignored (Adams, 2002; Adams & Whelan, 2009).

### 2.3 Institutional Perspectives

Sociological institutionalism comes in various forms. Of particular interest here are the neo-institutional theory perspective and the institutional entrepreneurship perspective that have been recently adopted in CSER studies (e.g. Etzion & Ferraro, 2010; Larrinaga-Gonzalez, 2007). The two perspectives are different in terms of their emphasis on structure and agency. The neo-institutional theory perspective is
more structural while the institutional entrepreneurship perspective is more agential.

Institutional accounts in the neo-institutional perspective are primarily concerned with the influence of broader social structures on social action. Institutions are understood to “comprise regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life” (Scott, 2008, p. 56). Institutional accounts question explanations based on rational actor models and instrumental rationality (Scott, 2008). There is a belief that “organizations and individuals who populate them are suspended in a web of values, norms, rules, beliefs, and taken for granted assumptions, that are at least partially of their own making” (Barley & Tolbert, 1997, p. 93). These cultural elements (institutions) are in fact social constructions that stabilise over time and offer legitimate scripts for action (Berger & Luckmann, 1967; Meyer & Rowan, 1977; Scott, 2008). Institutions therefore set boundary on the rationality by putting constraints on the options that individuals and collectives are likely to exercise, thereby, increasing the probability of certain types of behaviour (Barley & Tolbert, 1997). Managers conform to institutions – i.e. become isomorphic with their institutional context in order to increase chances of firms’ survival as by conforming to social expectations they gain legitimacy – which is the central tenant of the institutional thinking (Scott, 2008).

According to DiMaggio and Powell (1983) isomorphism emerges through three mechanisms - coercive, normative and mimetic. Scott (2008) identified three types of institutional pillars – regulative, normative, and cultural-cognitive that represents the three mechanisms. The regulative pillar is based on the rule’s setting, monitoring, recompense and punishment. Force, sanction and expedience are the central ingredients of the regulative pillar (Scott, 2008). This mechanism is usually exercised by powerful actors (e.g., the state, big customers, rating agencies) and pressures an organisation to adopt certain organisational practices (Greenwood et al., 2008). Such adoption is likely to be ceremonial and reflects a conscious and rational decision driven by the self-interest of an organisation in acquiring or maintaining resources (Higgins & Larrinaga, 2014).

The normative pillar focuses on values and norms (Scott, 2008). Salient actors in the field socially construct normative expectations which include what is desirable for an organisation and how things should be done. These expectations become external pressures for an organisation which in turn adopts organisational practices with the main motivation to respect social obligations (Greenwood et al. 2008). Such adoption still reflect a conscious decision, however under normative pressures, the logic of appropriateness sets limits on this consciousness and possibility of instrumental behaviour (Scott, 2008).

Finally, under the cultural-cognitive pillar, activities are assumed to be enacted in relatively taken for granted ways. According to Scott (2008), the logic employed to justify conformity is that of orthodoxy, the perceived correctness and soundness of the ideas underlying action. Imitation is a cognition institution that better captures the isomorphic mechanism (DiMaggio and Powell, 1983). Organisations imitate successful peers to gain legitimacy of the conventional acts. In case of conflicting prescriptions of institutional context and prescriptions of technical core of organizations, conformity may be ceremonial by decoupling symbolic practices from operations (Meyer & Rowan, 1977; Zucker, 1987).

Institutional accounts mainly focus on the field-level and explain the process of how the social (institutional) context and pressures for social conformity shape organizational structures and practices. The concept of the field is central to the institutional studies which refers to the group of actors “that partake of a common meaning system and whose participants interact more frequently and fatefuly with
one another with actors outside the field” (Scott, 2008, p. 6). Fields can be “issue-based” (Hoffman, 1999) and may be considered as “socially constructed space arising from interactions, shared interest, and common concerns” (Rob Gray, et al., 2010).

The Organisational field defines the set of legitimate options for managers and constrains their discretion in the adoption of organisational practices (Hoffman, 1999). The process and the outcome of a process through which a practice becomes taken for granted in organisations is referred to as institutionalisation, which is the main focus of institutional studies (Larrinaga-Gonzalez, 2007). For instance, by now a corporate focus on sustainability “has become a strongly institutionalised feature of the contemporary corporate landscape in advanced industrial economies. The idea that corporations should engage in some form of responsible behaviour has become a legitimate expectation”(Brammer, Jackson, & Matten, 2012, p. 10).

Institutional studies are largely unexplored in the area of CSER. However, in recent years, both structural and agential studies started to surface and add to the literature. Using the neo-institutional theory perspective, one line of work has explained the rise of CSER due to institutional pressures on organisations leading towards isomorphism. CSER may be initiated by managers to ‘fit in’ and to act ‘appropriately’ in the context in which they operate. This has been the main argument of Larrinaga-Gonzalez (2007) for the convergence of CSER among firms. According to him, CSER could become institutionalised through regulative, normative and cognitive institutional pressures, determining to some extent the choice of organisations in terms of whether or not to publish and report. Thus, CSER can be viewed as a response to regulation and/or a response to voluntary initiatives on the grounds of social responsibility and/or as a mimetic pressure to follow the orthodoxy in fields. This has been confirmed by Bebbington, Higgins, & Frame (2009) in their interview-based study of early reporters in New Zealand. They analysed and demonstrated the influence of coercive, normative and cultural-cognitive pressures that interact with various organisational conditions to shape CSER as an ‘appropriate’ ‘normal’ activity or ‘the right thing to do’.

Another line of work on CSER uses insights from the institutional entrepreneurship perspective and focuses strategic agency, rather than isomorphic forces leading to conformity and stability. For instance, Brown, De Jong, & Lessidrenksa (2009) studied the institutionalisation of the guidelines of the GRI and showed how through a combination of discursive, material (resource-based) and charismatic tactics, GRI managed to institutionalise CSER. The study of Levy, Brown, & De Jong (2010) found similar results by emphasising field-level power relations. Similarly, Etzion & Ferraro (2010) looked at the role of analogies as a mechanism guiding the institutionalisation of CSER.

Overall, institutional perspectives provide useful lenses through which the institutionalisation process of CSER may be viewed as an assemblage of external and internal factors (Adams & Larrinaga-González, 2007). Institutional perspectives are richer than legitimacy and stakeholder perspectives in terms of their explanation (Deegan & Unerman, 2011). It provides a complementary and partially overlapping, perspective to both legitimacy theory and stakeholder theory. The regulative pillar of institutional theory overlaps with the legitimacy and stakeholder theory that assumes a manipulative logic and power differences between various actors (Deegan, 2007; Higgins & Larrinaga, 2014). However, institutional theory, complements this through different motives to be explored, which are primarily based on the logic of appropriateness and on the social construction of reality (Larrinaga-Gonzalez, 2007).

Institutional theory expands legitimacy and stakeholder perspectives (Deegan, 2002, 2007), downplays
managerial agency and consider a more complex range of factors that influence reporting and disclosure practices rather than deliberate decision-making (Bebbington, et al., 2009). Managers conform to societal expectations of the actors in the organisational field to safeguard organisational success and survival (Meyer & Rowan, 1977) a view that is consistent with legitimacy theory and stakeholder theory. But this is not the only mechanism; other mechanisms can also shape this process of conformity and institutionalisation. It explains that managers will be subject to a combination of coercive, mimetic and/or normative pressures to change, or adopt, certain voluntary corporate reporting practices (Deegan & Unerman, 2011).

The two institutional perspectives, however, are skewed and explain CSER as either an institutional outcome or the result of strategic agency of few individuals. The structural isomorphic studies limit their attention on the macro institutional environment and therefore portray organisations as conformists responding to external pressures. The main emphasis has been on the constraining nature of institutionalised beliefs and values (Dillard, Rigsby, & Goodman, 2004). This has limited its explanatory potential as studies have tended to overlook the active role of agency and other dynamics in the process of institutionalisation (Dillard, et al., 2004; Lounsbury, 2008).

By focusing on the homogeneity of structures and practices, institutional theory ignores the heterogeneity of structure and practice variation (Lounsbury, 2008; P.H. Thornton, et al., 2012). While explaining the institutional dynamics, organisational and individual dynamics are largely ignored (Oliver, 1991). According to Greenwood & Hinings (1996), internal organisational dynamics is an important determinant of organisational responses to external institutional pressures. In the words of (Bebbington, et al., 2009, p. 616), “what goes on inside organizations is as important as what goes on outside organizations to the institutional process”. This highlights the need for institutional studies that attach importance to the role of social actors (organisations and individuals) in the process of institutionalisation.

Agential institutional entrepreneurship studies, on the other hand, give too much power to individuals and ignore the role of social structures shaping interest and power of agents. Institutional entrepreneurs are characterised as agents who can dis-embed themselves from existing institutional arrangements and can extend their self-interest to create new institutions or shape existing ones by deploying the resources at their disposal to create and empower institutions (Dacin, Goodstein, & Scott, 2002; Hardy & Maguire, 2008; Leca & Naccache, 2006). They can manipulate cultural symbols and practices by story-telling and rhetorical strategies (P.H. Thornton, et al., 2012). This ability of institutional entrepreneurs to freely manipulate institutions has been criticised as it gives too much power to individuals (Hardy & Maguire, 2008) and fails to answer how institutional entrepreneurs discover their ideas and self-interest and whether these ideas and interests are embedded in, or are autonomous from, the social system (P.H. Thornton, et al., 2012). In a nutshell, entrepreneurship studies overplayed the strategic and rational intentions of the institutional entrepreneurs at the expense of unintended consequences and the embeddedness of actors in their institutional contexts.

2.4 Limitations of the Dominant Perspectives
All three dominant theoretical frameworks (legitimacy, stakeholders and institutional theory) are complementary and partially overlapping. However, these theoretical frameworks differ in terms of their level of resolution (i.e. breadth and depth). Some are good in providing macro level explanations while some are good in providing meso and micro level explanations. There is lack of theoretical perspective
that can provide multi-level explanation of the phenomenon.

Among all theoretical frameworks there is a great variety but accounting researchers remain selective in their use of the theory and some other aspects of the theory remained unexplored. A part from this narrow application, repeated application of same theories especially legitimacy and stakeholders theory) provide very little additional insights.

Explanatory potential of legitimacy theory is limited as it does not consider factors related to reporting processes as much as the attitudes of agents. Although the theory is perception based it does not explain how these perceptions are themselves shaped. Simply saying that managers are guided by their self-interest and instrumentally use reporting to seek legitimacy of society is not enough. In reality attitudes, priorities and institutions of corporate managers are guided by complex range of internal and external factors that result in different ways how they are motivated about the need for reporting and go about it.

Stakeholders’ theory provides better picture by specifying various stakeholders and how they influence reporting. However, like legitimacy theory, stakeholder theory also ignores the process and focus only on outcomes. It provides little explanation of how stakeholders exert pressure on companies? What are the attitudes, institutions and priorities of these stakeholders and how these are developed? How these different institutions are then aligned that appears as an outcome explained by instrumental stakeholder theory. Overall explanation lacks discussion of internal factors (like attitudes, priorities and institutions) of managers and their linkage to external factors.

Institutional theory provides a promising alternative as it explains process of institutionalisation. Institutional theory explains the process as the assemblage of external and internal factors. Institutional theory complements both stakeholder theory and legitimacy theory. Legitimacy theory and stakeholders theory assumes a manipulative logic, based on self-interest, which could correspond with coercive structures of institutional theory. However institutional theory also permits different motives (that correspond with normative and cognitive structures) to be explored: primarily based on the logic of appropriateness and on the social construction of reality. Its focus of analysis is more on the process of how the social context influences organisational participants to behave rather unconsciously in ways that are ‘normal’ to ‘fit in’ and appear ‘appropriate’ This illustrates that while managers still make conscious choices, under normative pressures, logic of appropriateness, replaces and sets limits on instrumental behaviour. The explanatory potential of institutional theory is also limited in terms of individual dynamics. Due to its main focus on macro institutional environment leading to structural conformity, institutional studies have tended to overlook the active role of agency and power dynamics in the process of institutionalisation. That is why it failed to explain practice variation as well as the impact of CSER on social and environmental performance. It failed to explain why some companies are reporting and some are not reporting? Why some companies are producing a separate report while others make it part of the annual report? Why some companies adopt standard guidelines while others do not follow any guidelines. Why some companies become members of international agreements (like UNGC) while others not? Organisations are portrayed as conformists responding to external pressures. If this is the case then in the presence of similar pressures all organisations shall respond in same way. However literature suggests that organisational dynamics and individual dynamics are also play an important role in the process of institutionalisation. Considering this active role of agency by focusing more on organisational and individual dynamics can provide some interesting and additional insights. Also such an analysis has the potential to provide multi-level explanations that takes into account complexity of both external and internal factors. Such an analysis is missing from the literature.
2.5 Alternative Perspectives on Corporate Social and Environmental Reporting

We suggest the use of the theory of realistic evaluation by Pawson & Tilley (1997) and the Institutional Logics Perspective by P.H. Thornton, et al. (2012) as alternative perspectives on CSER. In our view these perspectives are capable of providing multi-level and in-depth explanation of “why” and “how” CSER is done and what impact it is having towards organisational change for better social and environmental performance. In this section these two perspectives are explained as well as some of their challenges and limitations.

3.1 Theory of Realistic Evaluation

The theory of realistic evaluation stresses the need to evaluate things within their “context” (Pedersen & Rieper, 2008) and provides a broad conceptual framework (CMO framework) for putting underlying causal mechanisms at centre stage. The central proposition in the CMO framework is that the outcome (O) of an intervention/program (for instance CSER in this case) depends on how the underlying causal mechanisms (M) are fired in a specific context (C). Mechanisms link input (social and environmental reporting) and outcome (social and environmental performance), as they are triggered in certain contexts (external and internal). Outcomes may be positive or negative, intended or unintended. It is the job of the researcher to formulate and test explanatory hypothesis on how a programme generates social change and to identify the context influencing the operation of these, in order to produce knowledge on what works, for whom, in which circumstances and how? Thus the aim of realistic evaluation is to accumulate knowledge, which can be useful in social programmes. Aim is to build middle-range theory, e.g. ‘families’ of CMO configurations, which provide knowledge on how social mechanisms creates change and produce outcomes in specific contexts (Marchal, van Belle, van Olmen, Hoerée, & Kegels, 2012; R. Pawson & Tilley, 1997; Stame, 2004).

...the basic idea of middle-range theory is that these propositions do not have to be developed de novo on the basis of local wisdom in each investigation. Rather they are likely to have a common thread running through them traceable to [a] more abstract analytic frameworks [. . .]. (R. Pawson & Tilley, 1997 : 123 - 4).

The major assumption in realistic evaluation is that all social programs (sustainability reporting in this case) are ‘theories incarnate’. The theory may or may not be explicit (Manzano-Santaella, 2011; Millar, Powell, & Dixon, 2012) but whenever a program is implemented, it is testing a theory about ‘what might cause change’. In that sense one of the major task of realist evaluation is to make theories within program explicit (Millar et al., 2012), by developing various configurations about how, for whom and in what context programmes might work and then test those configurations by collecting data from the implementation of a programme in specific contexts. This is expected to result in testing previous theories and developing a new one and help policy makers to make well informed policies (R. Pawson & Tilley, 1997).

Theory of realistic evaluation has its roots in a philosophy called scientific realism which shares common ground with critical realism (Marchal et al., 2012). It accepts that there is a real world ‘out there’ that exists independently of the researcher (natural realism) but this reality cannot be directly and empirically observed without any mediation. It follows the relativist epistemology as knowing the reality through science is unavoidably relative to the researcher (Sayer, 2000). Realist evaluators believe in generative nature of causality and the potential of actors for change. Realists accepts the role of
agency, however at the same time they gave independent status to the structural and institutional conditions (R. Pawson & Tilley, 1997). As a result of the interplay between institutions and individuals, both actors as well as social programmes have their roots in stratified social reality. This means that causal mechanism are placed in social relations and institutional context as well as among individuals
The main aim of realists is to explore such causal mechanisms (M), residing at institutional and individual levels, that combinse with a specific context (C) to create change that can be observed in the form of outcomes (O), commonly known as CMO configuration.

The concept of CMO configurations as explained by R. Pawson and Tilley (1997) is best considered as a way of operationalizing this philosophy (Harrison & Easton, 2004). Moreover this theory also provides guidance for research design to ensure realisation of research objectives. In practice, realistic evaluation start with middle range theory (MRT) and end with refined MRT (R. Pawson & Tilley, 1997 : 84). Existing theory, past experience and previous evaluations or research studies results in the formulation of the initial MRT. In this way it provides a basis to systematically organise literature review to come up with initial MRT. After initial MRT from literature review, field study is designed to ensure that data collection and analysis tools are developed to enable testing of the elements of MRT. CMO configurations are used as the main imaging tool and mixed methods can be used. Resulting explanations are formulated as conjectured CMO configurations that may be in the form of narrative summaries, tables or diagrams. Finally they are translated into more abstract level of MRT which is modified if necessary.

Conducting research in this way aids the evaluation of complex issues as it not only exposes the underlying causal mechanism but also exposes the influence of the context responsible for firing/miss firing the mechanism (Greenhalgh et al., 2009). It helps in understanding change in the form of intermediate processes between actions and outcomes. This understanding enhances the transferability of findings to other setting (Weiss, 1997). Research is more relevant to practice and policy makers (Stame, 2004). It increases the general knowledge base as it provides incremental knowledge by framing findings on existing theories (Ray Pawson, 2003). However a number of challenges and limitations are identified in the literature by many researchers. Awareness of those challenges and limitations and how they might affect research is an important consideration while selecting a theoretical framework.

Marchal et al. (2012) in their literature review of realist evaluation in health systems identified three main challenges. First there may be little or no relevant theory to the problem under consideration. Second challenge is to identify what constitute a “mechanism” and “context”. Despite of the guidance provided by R. Pawson and Tilley (1997) about what constitute as a “mechanism” and “context”, there is a risk that these terms are interpreted in a narrow fashion as confirmed by Astbury and Leeuw (2010) and Barnes, Matka, and Sullivan (2003). This challenge is further increased by the fact that in the field of accounting, “mechanism” and “context” based explanations are scarce. Further as theory of realistic evaluation is not used so far in accounting, so it poses a great challenge to interpret the concepts of the theory properly and apply them to accounting. But at the same time this could be the major contribution in the field of accounting and to the theory in itself. Final challenge is the availability of time and resources as such evaluations can be resource and time consuming.

For many researchers realistic evaluation is well suited to investigate the complexity, either for evaluating complex programs or of complex causal pathways. However for some researchers, in practice it is very difficult to do for complicated, multi-component interventions taking place in different contexts. This poses some limitations of multiplicity of context and mechanism. Byng, Norman, and
Redfern (2005) in their research highlight these limitations. According to them this theory ignores the possibility of multiple competing mechanisms and feedback loops between outcomes of an intervention and the original mechanisms. According to them both of these issues are much considered by Bhaskar (1989) and these limitations may affect the way in which mechanism may be analysed. Considering them in the research design may result in better explanation and theoretical development. This hinted towards the fact that the principles of critical realism on which realistic evaluation is built are applied to varying degrees and its awareness may help researcher to work on limitations and contribute to the theory development. Despite of this, realistic evaluation provides a sound framework to examine how context and mechanism bring change and even the superficial application of realistic evaluation to the field of CSER has the advantage of exploring the processes and context which is lacking and required for advancement in the field.

3.2 The Institutional Logics Perspective

P.H. Thornton, et al. (2012, p. 2), describe the ILP as a “meta theoretical framework for analysing the interrelationships among institutions, individuals, and organisations in social systems”. The ILP aids the researcher in exploring how individuals and organisations shape, and are being shaped by, their institutional environment. According to Cloutier & Langley (2013), the ILP is a useful and practical lens through which to account for the plurality of norms and beliefs in institutional theory and for explaining the processes underscoring institutional formation and change. The ILP follows a broad meta-theory: “to understand individual and organisational behaviour, it must be located in a social and institutional context, and this institutional context both regularizes behaviour and provides opportunity for agency and change” (P.H. Thornton & Ocasio, 2008, p. 102). There are five fundamental principles that underline this meta-theory: society as an inter-institutional system, partial autonomy of social structure and action, institutions as material and symbolic, institutions as historically contingent, and institutions at multiple levels of analysis (Friedland & Alford, 1991; P.H. Thornton & Ocasio, 2008; P.H. Thornton, et al., 2012).

The most comprehensive theoretical framework in the ILP is the “inter-institutional system” which is made up of seven institutional orders of market, corporation, profession, state, family, religion and community, all theorised, across nine categories that collectively constitute logics of these institutional orders (P.H. Thornton, et al., 2012, p. 73). Institutional orders can be understood as mega institutions (or societal orders) that can be found in a particular society. These mega institutions are guided and organised by their distinct rationality or institutional logics. Institutional logics are “socially constructed, historical patterns of cultural symbols and material practices, including assumptions, values, and beliefs, by which individuals and organisations provide meaning to their daily activity, organize time and space, and reproduce their lives and experiences” (P.H. Thornton, et al., 2012, p. 51). Institutional logics are more abstract and powerful social structures than are institutions – they make and guide the institutions (Johansen & Waldorff, 2015). Institutional logics are a set of material practices and symbolic constructions guiding the institution. Institutional logics shape individual interests and preferences, and provide rationality and vocabularies for motives to attain those interests and preferences.

Being part of a social system, organisations and individuals are under the influence of institutional orders and their underlying logics. Each order represents a different set of expectations (logics) and can shape in different ways how rationality for action is perceived and experienced. This means that rationality varies with the institutional order and there can be multiple institutionally-based rationalities in a given context (Lounsbury, 2008) which may lead to different actions by providing a different
reference system for such action (Goodrick & Reay, 2011). In this way the ILP differs from the neo-institutional theory which assumes a binary (rational-technical vs. non-rational-institutional) view of rationality (P.H. Thornton, et al., 2012).

Looking from the institutional logics perspective, CSER is an institution which is socially constructed by subjects (practitioners) through constellations of subjective meanings and material practices (known as institutional logics). CSER is an institution which one believes to “exist”, which one “prepares”, “publishes”, and “reads” and through which one can “discharge accountability”, “show responsibility” and “obtain benefits”. CSER is pointed to, evoked, and known through particular categories (e.g. efficiency, transparency) enacted through particular sets of material practices (e.g. stakeholder engagement, materiality analysis, publishing standalone reports) which are experienced through a particular form of subjectivity in the form of beliefs about its needs and benefits. Publication of a report is the tangible form of the belief about its existence and about the need and benefit of CSER. These beliefs then shape reporting practices. For example, the need for accountability would result in different forms of reporting while the need for creating value (which depends on how value is socially constructed) would result in other forms of reporting.

The ILP assumes that institutional logics manifest at multiple levels and that individual actors are nested in higher order levels – organisational, field, and societal. At the societal level, the ILP illustrates seven distinct institutional orders and associated logics. The instantiations of logics within the field, organisations and individuals draw from and are nested within these societal level logics (Besharov & Smith, 2014). For example, Patricia H Thornton (2002), in her study of higher education publishing, describes the industry’s ‘editorial’ and ‘market’ logics as the instantiation of societal level ‘professional’ and ‘market’ logics. In this way, this meta-theoretical principle provides an opportunity to develop theory and research across multiple levels of analysis (P.H. Thornton, et al., 2012, p. 13). In short societal-logics, depending upon their instantiation by organisations and individuals, have implications in the emergence of field-level logics and practices. Field-level logics are both constrained and enabled by societal-logics.

The field in the ILP is the constellation of subjectivities and material practices related to the institution. Here, the field is “made up of a variety of organisations that have their values anchored in different societal-level institutional orders” (P.H. Thornton, et al., 2012, p.44). For example, madrasas 1 (religion), private schools (market and corporation), public schools (state), not-for-profit schools (community), ministry of education (state), teachers (profession), parents (family) and school associations, all have huge stakes in the provision of education. These social actors interact with each other and take one another into account for the development of practices within and across organisations. The fact that these organisations are anchored in different institutional orders means that multiple logics exist at the field-level providing multiple forms of institutionally based rationalities (subjectivities) to the field participants. Therefore in essence, the field serves as the socially constructed space arising from interactions among organisations (Wooten & Hoffman, 2008) where “multiple rationalities” (P.H. Thornton & Ocasio, 2008) exist and where “collective rationality” (Scott, 2008) is constructed around specific issues (Hoffman, 1999) through communication, contestation and coordination. Such a conceptualisation of the field allows an institutional analysis that can provide insights into the heterogeneity of the context and its implications for organisational practices (Lounsbury, 2008).

Social actors are the key for institutional analysis (P.H. Thornton, et al., 2012). Social actors are

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1 Madrasa is the name for a school for religious studies.
“carriers” which represent and give voice to institutional logics (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011). In the process, social actors play an important role in shaping and being shaped by institutional logics (Pache & Santos, 2013). A core premise of the ILP is that “the interests, identities, values, and assumptions of individuals and organisations are embedded within prevailing institutional logics” (P.H. Thornton, et al., 2012). However, instead of assuming a deterministic view of institutions, the ILP presupposes partial autonomy of individuals and organisations in any explanation of social action (P.H. Thornton & Ocasio, 2008). According to this perspective, social action is institutionally constrained but not institutionally determined. Social actors play an important role. The ILP conceptualises social actors as “situated, embedded, and boundedly intentional” (P.H. Thornton, et al., 2012, p.89) individuals having partial autonomy. This conception of actors allows for both taken for granted behaviour, as well as agency and reflexivity.

P.H. Thornton, et al., (2012) note that understanding of the internal organisational dynamics is very important for organisational analysis as it mediates the effect of the institutional environment on organisational practices. Nonetheless, organisational-level analysis shall also consider the wider influences of various institutional logics, pressures and cues stemming from other organisations in the field (Lounsbury, 2008). Collectively these influences, pressures and cues are considered as part of the dynamics external to the organisation and are considered equally important by the ILP (P.H. Thornton, et al., 2012). In this way, the ILP gives due importance to both dynamics in order to provide a complete understanding of the institutional embeddedness and organisational action. According to the framework, organisations are embedded in fields that constitute the constellation of logics and appropriate practices. Organisations draw upon these logics and practices in order to construct legitimate practices. Depending upon organisational characteristics and experience and how they are situated, some logics are more accessible than others. These accessible logics and the way these are used by organisational actors shape organisational rationality and actions.

The ILP provides a more refined perspective compared to the other theoretical perspectives used in the literature: legitimacy theory, stakeholder theory, neo-institutional theory and the institutional entrepreneur perspective. The ILP differs from the outset in terms of its orientation on heterogeneity and practice variation as compared to other institutional perspectives which focus on homogeneity and isomorphism (P.H. Thornton & Ocasio, 2008). Compared with the legitimacy theory, stakeholder theory and the other institutional theories reviewed sectiontwo; the ILP provided an excellent basis to account for and helped explain the emergence of a complex phenomenon. It paid special attention to the multiple levels (macro, meso and micro) and enables a more detailed account of institutional, organisational and individual dynamics.

The ILP provides the conceptual tool to understand the social construction process of CSER. The main tool is inter-institutional system which is a useful concept for understanding the higher level institutional beliefs that both enabled and constrained the symbolic constructions at lower levels. It helped in illuminating the heterogeneous nature of any society in terms of the evolution of different societal orders and their implications for different practices. This conceptualisation differs from legitimacy theory which considers society as a homogenous group and disregard important forces behind shaping practices in a particular field. On the other hand, while stakeholder theory considers the heterogeneous nature of society in the form of different stakeholders having heterogeneous demands, it falls short of revealing the macro forces behind heterogeneity of such stakeholder demands. For instance, the institutional order of the community and its underlying logics play an important role in shaping the demands of non-governmental and/or other community organisations. This study, therefore, argued that such an
understanding of the societal context is necessary to reveal the complexity of drivers for both the presence and absence of CSER.

The conceptualisation of the field as a constituent of the “variety of organisations that have their values anchored in different societal-level institutional orders” (P.H. Thornton, et al., 2012, p. 44) provided insights into heterogeneity of the field that showed implications for practice adoption, non-adoption and variation (Ansari, Fiss, & Zajac, 2010; Lounsbury, 2008). The perspective assumes that different logics may be associated with different actors due to their embeddedness in different institutional orders (Reay & Hinings, 2009). For example, accountants and environmentalists may be guided by different competing logics under the influence of the professional and community order. Such a conceptualisation helped in exposing competing and complementary logics that exist at the field-level and the role of actors in advancing them through communication, coordination and contestation. In this way, this lens is quite useful in answering questions being raised in recent institutional studies in the field of CSER in terms of the role of actors in shaping the CSER field and its influence on organisations.

The framework is also useful for revealing internal organisational dynamics (for instance organisational culture) in order to understand how these dynamics interplay with external dynamics and influence reporting practices. In this way, the theoretical framework deals with both the external and internal dynamics on the initiation of SR practices. On one hand, by focusing on the societal and field-level, it provided a foundation for the analysis of the external factors affecting SR practices. On the other hand, the importance of internal factors was also recognised in the form of organisational values, practices and identities.

The ILP is not without challenges as well as limitations. The challenges are mainly related to the concept of institutional logics and especially how it is theorised and operationalised. The concept of institutional logics is more or less an abstract theoretical concept which has been operationalised differently in empirical analysis. The definition of institutional logics is too open-ended and does not specify exactly what comprises a logic (Powell & Bromley, 2013). The categorical elements in the form of ideal-types of institutional logics by P.H. Thornton, et al. (2012) are also not tightly defined. According to Cloutier & Langley (2013), current conceptualisations of institutional logics have also ignored the moral (value) dimension which is an important explanatory mechanism for deepening our understanding of institutional and organisational dynamics. Values were given importance by Friedland & Alford (1991) in their initial conceptualisation of institutions. The institutional system of P.H. Thornton, et al. (2012) represents values in a limited way by considering them as part of legitimacy. However, things are judged to be legitimate on the basis of conformity to institutions and not on the basis of their being right or wrong in a moral sense. In this way an important dimension is given less importance. Klein (2013) argues that even if social actors endorse one logic over the other, there has to be a moral dimension which pushes them to consider that some aspect of the status quo is “wrong” or “unfair”.

4. Conclusions
The dominant theoretical perspectives on CSER do not fully capture the complexity of the phenomenon. They do not provide in-depth and multi-level explanation of why and how CSER is practiced and impact social and environmental performance. This situation demands researchers to explore alternative theoretical perspectives for better and insightful research. This paper critically reviewed the dominant theoretical perspectives and highlighted their limitations. The main contribution of this paper is that it
suggests the theory of realistic evaluation (RE) and the institutional logics perspective (ILP) as alternative sociological perspectives. The theory of realistic evaluation stresses the need to evaluate things within their “context” and provides a broad conceptual framework (CMO framework) for putting underlying causal mechanisms at centre stage. Research based on RE is more relevant to practice and policy makers as it explains social mechanisms responsible for change towards better social and environmental performance. The ILP is a useful framework for multi-level analysis of the institutional logics and processual dynamics related to the emergence and development of CSER. It enables a more detailed account of the institutional, organisational and individual dynamics. The theoretical framework deals with both the external and internal dynamics on the initiation and institutionalisation of practices. The two theoretical perspectives are not without challenges and limitations which are also highlighted in this paper. Through this paper, we invite future researchers to apply these theoretical frameworks and to explore their usefulness.

References


