

OUTSOURCING, COST REDUCTION AND FIRM'S PERFORMANCE

Outsourcing, Cost Reduction and Firm's Performance: Empirically Evidenced from Banking Sector of Pakistan

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Abstract:

Purpose - The purpose of the study was to assess the relationship or impact of outsourcing and cost reduction on the firm's performance.

Design/methodology/approach - A sample of 12 banks out of 22 banks population listed at KSE-100 index of Pakistan was selected and panel data for five years period such as from 2007 to 2011 was gathered. Convenience sampling technique was used because of availability of relevant data. Descriptive statistics, correlation and OLS (Ordinary Least square method) were used as most appropriate techniques for data analysis and different panel data models were used for estimation such as the common effect, fixed effect and random effect model.

Findings - Results suggested that cross-sectional random effect model was most appropriate, and all four hypotheses were supported. Overall outsourcing, CIR and C/A showed significant positive relationship with two measures of firm's performance (ROA and ROE). Empirical evidence of the banking sector of Pakistan suggested that if a firm introduces outsourcing activities and do it in a cost-effective manner, a greater firm's performance can be achieved.

Originality/value - Many studies and found a positive link between outsourcing and performance of a firm. However, these studied some specific attributes of outsourcing such as Human resource, Logistics, IT and Business process of outsourcing but not overall outsourcing. Moreover, cost efficiency was not so much emphasized, and this phenomenon is not yet studied in Pakistani scenario.

KEYWORDS: Outsourcing, Cost Reduction, Firm's Performance, Banking Sector of Pakistan.

1. INTRODUCTION

Outsourcing is a very emerging field, recently developed and adopted in the last decade. Its importance is recognized mostly for cost reduction and improved firm's performance. Cost efficiency is indeed the most important aspect or purpose for outsourcing, but it is not the sole aim, other may include improved quality, operation expertise, diverse knowledge, access to talent, catalyst for change, tax benefits, risk management, reduce time to market, cost restructuring and many other reasons. The purpose of this study is to find the linkage of outsourcing to the cost factor and overall performance of a firm.

Outsourcing has been studied by various researchers (Pounder, Cantrell & Daly, 2011; Bolat & Yilmaz, 2009; Cho, Uzmant & Sink, 2008; Wang, Gwebu, Wang & Zhu, 2008; Sallimat, Cullen & Umesh, 2008; Jiang, Frazier & Prater, 2006; Gilley, Greer & Rasheed, 2004) for finding its relationship with firm's performance. These studies indicated that outsourcing has direct relationship with firm performance, i.e. increase in outsourcing will cause an increase in performance and vice versa.

Burkholder (2006) said, In today's globalized economy, it is impossible not to outsource. This clearly indicates the importance of outsourcing. It was evidenced that outsourcing has many dimensions such as information technology, manufacturing, logistics, facility's management, equipment maintenance, customer service, human resources, finance/accounting, sales/marketing, management, printing and purchasing; moreover, outsourcing was termed as a way to improve firm's value (Pounder, et al. 2011).

Along with improvement in performance, outsourcing is also done specifically for cost reduction (Pounder, et al., 2011; Jiang, et al., 2006; Oh, Gallivan, and Kim, 2006; Gilley, et al., 2004). So it was termed as the dual motive of outsourcing. Other motives of outsourcing may include improving core competencies, technological innovation, strategic considerations, decreasing transaction cost and shareholder's value (Quinn & Hilmer, 1994; Williamson, 1975).

Many studies (Pounder, et al., 2011; Bolat & Yilmaz, 2009; Cho, et al.; 2008; Wang, et al., 2008; Sallimat, et al., 2008; Jiang, et al., 2006; Gilley, et al., 2004) studied and found a positive link between outsourcing and performance of a firm. However, These studied some specific attributes of outsourcing such as Human resource, Logistics, IT and Business process of outsourcing but not overall outsourcing. Moreover, cost efficiency was not so much emphasized, and this phenomenon is not yet studied in Pakistani scenario. Current study is of greater significance because it studied the overall outsourcing such as accounting, information technology, production, logistics, sales and marketing, research and development, customer service, purchasing, Payroll's management and human-resource outsourcing. Moreover; it not only studied the only two dimensions of firm's performance that is return on assets and return on equity, but the measures of the most significant aspects of outsourcing (Cost efficiency) are also measured by two prominent ratio measures named as cost income ratio and cost asset ratio. So this study studied the overall outsourcing and its impact on firm performance in Pakistani scenario.

1.1 Banking system of Pakistan

The chief role of the Pakistani banking system is the growth in the financial and non-financial sector like other neighbor country's Bangladesh, Sri Lanka and India. This is because Pakistani Banking sector is the principal lender for all sectors and almost every company's fund flows through this channel (Jiang, et al., 2006; Perera, Skully & Wickramanayake, 2006). State Bank of Pakistan (SBP) is the main regulatory body, and all banks are regulated under its Banking Companies Ordinance, 1962. Although there are some major amendments made in banking laws in 1997, under section 40(A) of the said Ordinance; SBP remains an autonomous body for the supervision of banks in Pakistan. Quarterly performance review of the banking system by SBP (December 2010) shows that there are total 40 banks in Pakistan, excluding non-banking finance companies and DFIs. Category wise there are 25 local private banks, four specialized banks, four commercial banks and seven foreign banks.

2. LITERATURE REVIEW

Outsourcing is not only important, but it is a need for every organization nowadays. A survey of large and medium-sized firms in Asia, Europe, and North America evidenced that 82% of the firms use outsourcing for at least one activity in order to increase their firm's performance (Gottfredson, Puryear, & Phillips, 2005).

Transaction cost theory supports the fact that outsourcing will reduce a cost (Williamson, 1975 and 1991). If outsourcing is implemented efficiently and effectively, it will positively increase firm value and operating cost will be reduced (Bolat & Yilmaz, 2009). Studies (Pounder et al., 2011; Bolat & Yilmaz, 2009; Cho et al., 2008; Sallimat et al., 2008; Wang et al., 2008; Jiang et al., 2006; Gilley et al., 2004; Juma'h & Wood, 2000) suggests that the linkage between outsourcing, cost reduction and firm performance exists. These linkages are discussed in depth in continuing a discussion.

2.1 Outsourcing

Outsourcing is the practice of turning over all or part of an organization's function to other vendors (Peslac, 2012). In simple words outsourcing is processed of contracting some function of business to some other company or a person. Outsourcing is utterly considered as non core to the business.

Outsourcing may be of Information Technology, Logistics, Human resource, Manufacturing, Facility's management, Equipment maintenance, Customer service, Finance/Accounting, Marketing/Sales, Printing and Purchasing (Pounder et al., 2011). However, outsourcing is not only concerned with procurement activities, infact procurement does not capture the crucial nature of outsourcing because all firms do purchasing for their operations. It is suggested that outsourcing is the decision of any firm to reject internalization of an activity, so it shows the important nature of outsourcing (Gilley & Rasheed, 2000). It is done either the firm is unable to produce goods and services internally or the firm rejects in-house production of it.

The purpose of outsourcing may include cost saving, core competency's improvement and some non-financial purposes, such as more high-quality goods and

services are available outside (Pounder et al., 2011; Gilley & Rasheed, 2000). Other purposes or advantages may be cost restructuring, operational expertise, catalyst for change, risk management, reduce time to market and tax benefit, etc. Some disadvantages or risks besides be associated with outsourcing such as the decline of innovation by outsource service provider (Teece, 1987). Loss of overall market performance (Bettis et al., 1992) and supplier may get the knowledge about how the product is manufactured (Prahalad & Hamel, 1990).

2.2 Linkage between outsourcing and firm's performance

Several studies evidenced a positive link between firm's performance and outsourcing (Pounder et al., 2011; Bolat & Yilmaz, 2009; Cho et al., 2008; Sallimat et al., 2008; Wang et al., 2008; Jiang et al., 2006; Gilley et al., 2004).

Jumah & Wood (2000) studied outsourcing linkage to performance of the firm in accounting perspective and found significant positive linkage between them. They argued that outsourcing cannot only provide a benefit in short term, but it can be beneficial in long term also. These arguments were not just on theoretical basis, but they studied many years' panel data and found that in long term it provides the more benefits than short term. If focused on the human-resource aspects, in long term it will help in reducing employee's long term obligations such as pensions and employee rights. Moreover, it can help in reducing other long term expenditures such as capital investment in hardware, machinery and software.

Gilley et al. (2004) studied the human-resource aspect of outsourcing and found significant implication of HR activities such as payroll and training. Results of their studies indicated that HR outsourcing shows the positive impact of performance of firm and all HR outsourcing activities lead to organizational effectiveness in general. This concept is also supported by transaction cost theory (Williamson, 1975 and 1991). This theory suggests that corporations mostly outsource activities that are not organization specific, while activities not critical to core competencies should be outsourced keeping in view the resource-based perspective.

Gilley & Rasheed (2000) found that organizational performance in hotel's increases for three reasons. First, due to increase of a firm's core competencies, this is because of outsourcing. Secondly outsourcing caused increased service quality, and lastly, it caused cost reduction. So it can be concluded that outsourcing caused improvement in organizational performance.

Cho et al. (2008) studied logistical outsourcing and found this capability to be positively related to the performance of the firm in the e-commerce market. This was because of logistic outsourcing may not be of such importance in e-commerce market, but it might be significant in other markets and firms. They supported their results by argument that firms in e-commerce industry spread wide amount of resources on their websites, but they are unable to reach their customers in time, so as a result of this study it was suggested that they could increase their logistic capabilities in spite of outsourcing them.

Conclusively, by studying all possible and accessible literature it can be drawn that there is a linkage between outsourcing and firm's performance.

2.3 Linkage between outsourcing and cost reduction

The very first thing that evidence the cost aspect of outsourcing leads back to Williamson, (1975) and (1991); the transaction cost theory and principal-agent theory (Jensen & Meckling). Transaction cost theory describes that outsourcing can be profitable only if the costs of outsourcing activities is less than its advantage. The advantage of outsourcing must be greater than cost of finding suitable supplier, asset specific investments and costs of contract imperfectness.

On another hand agency theory (Jensen & Meckling, 1976) describes that the information asymmetry will cause principle agent problems between employer and employee, which in turn will lead to productivity loss. In order to reduce these inefficiencies which arise from employees, a firm can outsource some of its activities by any exterior provider. The external provider can be regulated by outcome-based contract.

A firm should outsource its non core activities, which will results in cost reduction and finer organizational performance. The higher the cost of the internal process the finer will b firm inclined towards outsource that activity with lower cost(Pounder et al., 2011; Bolat & Yilmaz, 2009; Cho et al., 2008; Sallimat et al., 2008; Wang et al., 2008). Vertically integrated firms can get the advantage from cost reduction through economics of scale, decrease labour costs and low procurement costs.

Conclusively, many studies(Pounder, et al., 2011;; Cho, et al., 2008; Sallimat, et al., 2008; Gilley, et al., 2004; Jensen & Mecklingm, 1976) reviled that outsourcing will reduce a cost. These studies found that cost reduction or efficiency is more linked to outsourcing than that of other performance aspects.

3. THEORETICAL FRAMEWORK

By studying literature the following linkage between independent outsourcing and dependent variable firm performance is developed. Figure 1 shows the components of Outsourcing such as IT, Finance/ accounting, Logistics, Sales & marketing, Research and development, Customer service, Purchasing, Payroll, Human resource and Manufacturing. Moreover, it also shows the components of firm performance such as Return on assets (ROA) and Return on equity (ROE) as suggested by the literature.

For assessing the independent cost efficiency factor, it has been measured by Cost income ratio (CIR) and Cost to the asset ratio (C/A) as evidenced by literature; and the relationship or impact of these cost ratios with outsourcing and performance of the firm is also shown by figure 1.

Figure 1 shows the linkage of all the components of outsourcing as an independent variable to firm performance components such as ROA and ROE, as the dependent variable. The impact of two cost efficiency measures such as CIR and C/A is as well taken as independent or explanatory variable, and its linkage to firm's performance is finally shown. [Appendix Insert Figure 1 near here]

3.1 Hypotheses

H₁: Overall outsourcing has a positive impact on ROA, which as a result shows greater firm's performance.

H₂: Overall outsourcing has a positive impact on ROE, which as a result shows greater firm's performance.

H₃: CIR and C/A has a positive relationship with ROA, which as a result shows greater firm's performance.

H₄: CIR and C/A has a positive relationship with ROE, which as a result shows greater firm's performance.

4. METHODOLOGY

As this study was aimed to check the linkage of outsourcing, cost efficiency and performance of a firm in Pakistan, so the population selected for this study was to comprise of listed companies at all Pakistan Stock exchanges. However, due to availability and proper reporting of outsourcing related data, banking sector of Pakistan was chosen as population. The Listed banks on the Pakistani stock exchanges were selected in population because of easily availability of their data. Moreover, the data of these banks are more reliable and accurate as compared to non-listed companies, because of availability of their financial statements and annual reports.

There are three main stock exchanges currently working in Pakistan such as Karachi stock exchange, Islamabad stock exchange and Lahore stock exchange. The largest and most effectively managed stock exchange in Pakistan is Karachi stock exchange as compared to be above mentioned. So the sample for this study was considered to include listed companies at Karachi stock exchange in KSE-100 Index. However, after assessing annual reports of these companies, it was found that no sector as a whole was reporting their outsourcing activities except banking sector of Pakistan. Furthermore, there was no other journal available for reporting of outsourcing announcements. Finally, banking sector was selected, and as a sample for current research it included banks that were listed at Karachi stock exchange KSE-100 index. There were total 22 banks listed at Karachi stock exchange, but because of availability of outsourcing related data 12 banks of KSE- 100 index were selected, hence the sample became the sample of convenience for current research.

In this study, the unit of analysis was single listed bank in KSE-100 index. There were total 12 units in the sample. These units were taken as a representative of whole Pakistani banking sector population. The type of this study was the causal study, i.e. the outsourcing and cost factor will cause an increase in overall performance of the firm. The time horizon selected for the study was the five-year period such as from 2007 to 2011. A data for these five years (from 2007 to 2011) was gathered for the panel of 12 different banks.

Moreover, data was analyzed by most reliable statistical tools such as EViews version 7 and Ms excel. Panel data was analyzed and estimated by OLS method (Ordinary Least

square) and different panel data models were applied to find the best suitable model for estimation of data and for more credible results.

Following is the formulas of ratios through which firm performance and cost efficiency factor was measured.

1. Return on Assets (ROA)= Net profit / Average total Assets
2. Return on Equity (ROE) = Net profit / Average total equity
3. Cost income ratio (CIR)= Operating Income/Operating cost
4. Cost to asset ratio (C/A)=Total operating cost/Total assets

Moreover, there were some controlled variables, which were also included in estimating models such as profit, size, equity, operating cost (OC) and operating income (OI). The purpose of including these controlled variables was their respective importance and relationship that might affect the dependent firm's performance to some significant degree. These controlled variables data was extracted from gathered data by taking their natural logs.

The correlation matrix includes the t-statistic values, showing the relative significance of relationships between explanatory variables. Moreover, descriptive tests for the analysis of data were also run to check the properties of data. To check the overall linkage among all explanatory variables and firm's performance, different panel data models were used as the most appropriate technique for analysis of such relationships through OLS (Ordinary least square method). These models include common effect model, fixed effect model and random effect models.

The general penal model used in such analysis was as following,

$$Perf_{it} = \beta_0 + \mu_t + \lambda_i + \beta_1 OSC + \beta_2 SIZE + \beta_3 PROFIT + \beta_4 EQUITY + \beta_5 OC + \beta_6 OI + \beta_7 CIR + \beta_8 CA + E_{it}$$

In above general equation β_0 is a common constant, μ_t show the time-dependent error factor, λ_i show the cross firm or cross bank effect and E_{it} is common cross firm and cross time residual or error term. All other β shows the parameters of each explanatory variable. OSC shows the overall outsourcing in each bank. SIZE, PROFIT, EQUITY, OC (operating cost) and OI (operating income) are used as controlled explanatory variables in equation. CIR shows cost income ratio and CA shows cost to the asset's ratio, as measures of explanatory variable cost efficiency or reduction. $Perf_{it}$ shows the overall performance over the time period t and cross banks i . As there were two dimensions or measures of performance, which were ROA and ROE. So the above general equation for ROA can be written as following.

$$ROA_{it} = \beta_0 + \mu_t + \lambda_i + \beta_1 OSC + \beta_2 SIZE + \beta_3 PROFIT + \beta_4 EQUITY + \beta_5 OC + \beta_6 OI + \beta_7 CIR + \beta_8 CA + E_{it}$$

Similarly, for return on equity (ROE), the above general equation can be written as following.

$$ROE_{it} = \beta_0 + \mu_t + \lambda_i + \beta_1 OSC + \beta_2 SIZE + \beta_3 PROFIT + \beta_4 EQUITY + \beta_5 OC + \beta_6 OI + \beta_7 CIR + \beta_8 CA + E_{it}$$

After testing these general equations through common effect, fixed effect and random effect models, Hausman tests were applied to check which one better explains the relationship between explanatory and dependent variable firm's performance.

5. RESULTS AND DISCUSSIONS

5.1 Summary statistics

[Appendix Table 1 here]

Above table 1 shows the summary statistics of the data that was tested. As there were 12 banks included in sample and the data was collected for five years such as from 2007 to 2011, so the total number of observations becomes 60. Moreover, this table shows different statistical facts about data such as mean, medians, standard deviation, skewness and Kurtosis of all explanatory, dependent and control variables. It also shows the minimum and maximum values of each variable.

5.2 Correlation matrix

[Appendix Table 2 here]

Table 2 shows the correlation matrix along with t-values for each explanatory variable, showing the significance of relationship between all Independent variables. As compared with outsourcing (OSC), the CA (cost to assets ratio) shows .435 Or .43 Percent relation with OSC and the relation is significant at 5% level and according to t value, i.e. 5.036 is greater than 2 according to the rule of thumb for t-statistics. CIR (cost to income ratio) shows .217 or 21 percent relation with OSC and the relation is significance at 1% level of significance and according to t-value i.e 2.691. Equity as the control variable shows 37 percent relation with outsourcing, and the relation is the highly significant i.e t-value is 9.31 at 1% level. Operating cost (OC) shows a relationship with outsourcing, which is 39 percent and the relation is significant at 1% level, i.e. t-value is 9.874; which mean outsourcing has significant linkage with operating cost factor. Operating Income (OI) as well shows a relationship with outsourcing, which is 42 percent and the relation is significant at 5% level, i.e. t-value is 7.961. Outsourcing besides shows higher relation with two remaining control variables (Profit and size); which are 24 percent and 46 percent respectively and their relations are in addition significant at 1% level according to their t-values, i.e. 6.501 and 9.091 respectively.

Overall correlation matrix shows that there are significant relationships between explanatory variables such as all variables shows relevant relation with outsourcing and similarly among other variables, there are mostly vital relationships or linkages.

5.3 Common effect model

As there were two measures or dimensions for assessment of firm's performance, so for each dimension, the common effect model is tested. These dimensions were return on assets (ROA) and return on equity (ROE). So the following tables show the results of the common effect model for each dimension.

[Appendix Table 3 here]

The above table 3 shows the common effect model for dependent variable ROA. The method used for estimation was the panel least square or generally OLS. Hence the t-values of most variables is significant at 1% and 5% level and p-value of few variables is appreciable, but another model for more significant relations will be tested. Overall, the R-square shows that the relationship between ROA and explanatory variables 64 percent.

[Appendix Table 4 here]

The above table 4 shows the common effect model for dependent variable ROE. Here the method used for estimation was also the panel least square or generally OLS. Hence the t-values and p-value of outsourcing are significant at 1% level but generally appreciable results, another model for more vital results will be tested. Overall, the R-square shows that the relationship between ROE and explanatory variables 71 %.

5.4 Fixed effect model

Fixed effect model is also applied on both dimensions of firm's performance as following. This model checks the cross-sectional differences and effects by distinctive intercepts, in order to make models significant.

[Appendix Table 5 here]

Above Table 5 shows the fixed effect model for dependent variable ROA. As I compared to Table 3, this model shows relative good results. T-values and p-values of most variables are significant at 1% and 5% level and R-square show 86 percent relation between explanatory and dependent variable ROA. Overall, this model shows good results but any random effects must be checked before deciding which model is fit.

[Appendix Table 6 here]

Above Table 6 shows the fixed effect model for dependent variable ROE. As it compared to Table 4, this model shows relative good results. T-values and p-values of most variables are significant at 1% and 5% level; furthermore, it shows consequential positive results of outsourcing, and R-square shows 85 percent relation between explanatory variables and ROE. Overall, this model besides shows good results but any random effects must be checked before deciding which model is fit.

5.5 Cross section random effect model

This model is used to check random cross sectional differences by estimating distinctive error terms. Now this model is also applied for both dimensions of performance such as ROA and ROE as following.

[Appendix Table 7 here]

Above Table 7 shows the cross section random effect model for dependent variable ROA. This model shows more relevant results as compared to common and fixed effect model. All the p-values for explanatory variable are significant and t- values for important independent variables such as OSC, CA and CIR, Profit and Size; for which this study was conducted; It shows a appreciable result at 1% and 5% level. Although R-square for this model is low, i.e. 41 percent, but it shows significant positive relations among variables.

[Appendix Table 8 here]

Above Table 8 shows the cross section random effect model for dependent variable ROE. This model also shows more significant results as compared to common and fixed effect model for ROE. All the p-values and t- values for important explanatory variables such as OSC, CA and CIR, for which this study was conducted; It shows vital results at 1% and 5% level. Although R-square for this model is a low, i.e. 64 percent as compared to be fixed and common effect model, but it shows meaningful positive relations among variables. And combined for the both dimensions of performance this model shows vital results. For further clarification about which model is the batter, following Hausman test is conducted.

5.6 Correlated Random Effects - Hausman Test

This test compares penal data models and shows, which model the best measure the required relationship. Following table shows Hausman Test.

[Appendix Table 9 here]

Above Table 9 shows that random effect model is the batter because of its probability i.e. .609 or 60 percent. It shows that random effect model shows more significant results for required relations as compared to other penal data models.

5.7 Discussion on results of Hypotheses testing

This section presents the discussion on each hypothesis and presents results based on tests applied.

5.7.1 First Hypothesis

H₁: Overall outsourcing has a positive impact on ROA, which as a result shows greater firm's performance.

Table 7 shows that outsourcing has positive impact or relationship with ROA, i.e. t-value of outsourcing is 2.097881 which according to rule of thumb is significant. As for the acceptance or rejection of a hypothesis p- value is checked. The p-value of outsourcing is 0.012239, which is less than 0.05 (level of significance); hence first hypothesis is accepted. Conclusively, it is evidenced by results that outsourcing has positive impact or relationship with ROA and performance of the firm is increased by introducing outsourcing activities.

5.7.2 Second Hypothesis

H₂: Overall outsourcing has a positive impact on ROE, which as a result shows greater firm's performance.

Table 8 shows that outsourcing has a positive impact on ROE, i.e. t-value of outsourcing is 2.8741618 which according to rule of thumb is significant. As for the acceptance or rejection of a hypothesis p- value is checked. The p-value of outsourcing is 0.005783, which is less than 0.01 (level of significance), hence the second hypothesis is accepted. So it is concluded that outsourcing has positive impact or relationship with ROE as evidenced by results and performance of the firm is increased by introducing outsourcing activities.

5.7.3 Third Hypothesis

H₃: CIR and C/A has a positive relationship with ROA, which as a result shows greater firm's performance.

Table 7 shows that CIR and C/A as measures of cost effectiveness has positive impact or relationship with ROA, i.e. t-value of CIR and C/A 3.900194 are and 2.458486 respectively, which according to rule of thumb is significant. As for the acceptance or rejection of a hypothesis p- value is checked. The p-value of CIR and C/A are 0.000268 and 0.01719 respectively, which are less than 0.01 and 0.05 (level of significance), hence third hypothesis is accepted. So it is concluded that CIR and C/A or combine cost effectiveness has positive relationship with ROA as evidenced by results and firms, which gain cost effectiveness through outsourcing can gain greater firm's performance.

5.7.4 Fourth Hypothesis

H₄: CIR and C/A has a positive relationship with ROE, which as a result shows greater firm's performance.

Table 8 shows that CIR and C/A as measures of cost effectiveness have positive impact or relationship with ROE also i.e. t-value of CIR and C/A 2.58 are and 2.13 respectively, which according to rule of thumb is significant. As for the acceptance or rejection of a hypothesis p- value is checked. The p-value of CIR and C/A are 0.012643 and 0.037387 respectively, which are less than 0.05 (level of significance); hence third hypothesis is accepted. So it is concluded from results that CIR and C/A or cost effectiveness has positive relationship with ROE also and firms, which gain cost effectiveness through outsourcing can gain greater firm's performance.

CONCLUSION AND RECOMMENDATIONS

Extensive literature suggested the linkages of outsourcing, cost-effectiveness and performance of the firm. These relationships were tested empirically on listed banks in Karachi stock exchange in KSE-100 index and based on these results; it is concluded that if a firm introduces outsourcing activities and do it in a cost-effective manner, a finer firm's performance can be achieved. Empirical evidence suggested significant relationship of outsourcing and cost effectiveness on performance of the firm and here the dual motive of outsourcing is revealed; that if outsourcing is done effectively, it will cause cost reduction and finer firm's performance. Results reflected vital positive impact of outsourcing and cost effectiveness measures (CIR and C/A) on return on assets (ROA) and return on equity (ROE), which reflects higher firm's performance.

As first two hypotheses were to test the impact of outsourcing on firm's performance, both were accepted based on results. These hypotheses stated that outsourcing has a positive impact on ROA and ROE, which shows greater performance of the firm, so results suggested existence of such positive impact.

Third and fourth hypotheses were to check the linkage of cost effectiveness or reduction on firm's performance, so these two hypotheses were also accepted based on results. These hypotheses stated that CIR and C/A as measures of cost effectiveness has positive linkage with ROA and ROE, and it shows greater firm's performance. Results also suggested the existence of such direct linkage.

From above discussion it can be concluded that if a firm out sources some of its activities' cost effectively, it can be a possible way of achieving core competence and higher firm's performance. The cost factor must be considered while outsourcing because if it is not cost effective, a firm may face lower performance, and it may work as a factor in lowering shareholder's wealth or profit. One reason of giving more importance to cost reduction is that most of the firms work for maximization of shareholder's wealth and if outsourcing is not done cost effectively it can be a threat to it.

A need for further research also exists in this area. There may be other factors or issues such as job satisfaction if we see the HR perspective and lead time in production perspective, which may have linkage with outsourcing and firm's performance. Significance of these relationships can also be checked because these may lead to inferior firm's performance, although firms do outsourcing. A study on failure of outsourcing activities can also be performed, and some important factors can be identified which results outsourcing causing lesser performance. An answer to the question (why outsourcing to cause lower firm's performance?) can be found in the future.

In addition to that other measures of firm's performance such as the market measure, Tobbin's Q and return on investment, etc. can also be included for more critical and significant analysis of such relationships between outsourcing and firm's performance. However, inclusion of these measures depends on the availability of data in selected population for empirical investigation. Moreover, this research was conducted in one sector, i.e. banking sector of Pakistan due to availability of data and time; it should be tested in other sectors of Pakistan and a need for all sector study also exists, because it can give more generalized results.

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Table 2 Correlation matrix with T-statistics

t-Statistic	CA	CIR	EQUITY	OC	OI	OSC	PROFIT	SIZE
CA	1							

CIR	-0.205*	1						
	-7.564	-----						
EQUITY	-0.225	0.521	1					
	-1.758	4.646	-----					
OC	0.136	0.195	0.278*	1				
	1.047	1.515	14.166	-----				
OI	-0.338*	0.588*	0.329*	0.246*	1			
	-2.739	5.538	19.064	12.083	-----			
OSC	0.435**	0.217*	0.374*	0.392*	0.423**	1		
	5.036	2.691	9.311	9.874	7.961	-----		
PROFIT	-0.001	0.214	0.330*	0.368*	0.318*	0.249*	1	
	-0.005	1.669	8.134	9.133	7.854	6.501	-----	
SIZE	-0.276	0.358*	0.453*	0.398*	0.254*	0.464*	0.551*	1
	-2.185	5.117	23.995	15.503	24.237	9.019	8.659	-----

Note: The * indicates significance at 1%, ** at 5% and *** at 10%

Table 3 Common effect model for ROA

Dependent Variable: ROA			
Method: Panel Least Squares			
Variable	Coefficient	t-Statistic	Prob.
C	-33.0671	-2.98815	0.004217
OSC	-0.23911*	-3.10702	0.003011

CA	0.526311*	1.852255	0.004286
CIR	0.709135	1.223477	0.226462

	-		
PROFIT	0.43857**	-2.21366	0.031097
SIZE	0.14264*	2.68532	0.009605

R-squared 0.644099

Adjusted R-squared 0.611146

Note: The * indicates significance at 1%, ** at 5% and *** at 10%

Table 4 Common effect model for ROE

Dependent Variable: ROE			
Method: Panel Least Squares			
Variable	Coefficient	t-Statistic	Prob.
C	-415.77	-5.999935	1.71E-07
OSC	-0.82054*	-4.106957	0.000137
CA	0.557831	1.3853288	0.171648
CIR	0.02138	1.3637874	0.178293
PROFIT	-0.5759	-6.766344	9.87E-09
EQUITY	0.43257	6.5170065	2.50E-08
R-squared	0.712389		
Adjusted R-squared	0.685759		

Note: The * indicates significance at 1%, ** at 5% and *** at 10%

Table 5 Fixed effect model for ROA

Dependent Variable: ROA			
Variable	Coefficient	t-Statistic	Prob.
C	13.77683	1.074861	0.288431
OSC	0.104982**	2.060107	0.045473
CA	0.632345*	3.567528	0.0009
CIR	0.652882**	2.272956	0.028084
PROFIT	-0.61089*	-3.49001	0.001129
SIZE	-0.43411	-0.64444	0.522714

R-squared 0.865885
Adjusted R-
squared 0.815982

Note: The * indicates significance at 1%, ** at 5% and *** at 10%

Table 6 Fixed effect model for ROE

Dependent Variable: ROE			
Variable	Coefficient	t-Statistic	Prob.
C	-548.603	-2.8686	0.0063661
OSC	0.03453*	3.30202	0.0019379
CA	0.05875*	3.653814	0.0006977
CIR	0.662725**	2.116331	0.040144
PROFIT	0.9977	-5.67157	1.10E-06
EQUITY	0.15522*	3.411768	0.001416
	R-squared	0.85492	
	Adjusted R ²	0.800937	

Note: The * indicates significance at 1%, ** at 5% and *** at 10%

Table 7 Cross section random effect model for ROA

Dependent Variable: ROA				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-18.5826	6.076727	-3.058	0.003463
OSC	0.011611*	0.118623	2.097881	0.012239
CA	0.527823**	0.214695	2.458486	0.01719
CIR	0.686926*	0.176126	3.900194	0.000268
PROFIT	0.52368*	0.173048	3.02621	0.003789
SIZE	1.26534*	0.421116	3.004731	0.004025
R-squared	0.419152			
Adjusted R-squared	0.365369			

Note: The * indicates significance at 1%, ** at 5% and *** at 10%

Table 8 Cross section random effect model for ROE

Dependent Variable: ROE			
Variable	Coefficient	t-Statistic	Prob.
C	-458.434	-5.827744	3.22E-07
OSC	0.791261*	2.8741618	0.005783
CA	0.726484**	2.13E+00	0.037387
CIR	0.511274*	2.58E+00	0.012643
PROFIT	0.6526	5.43E+00	1.36E-06
EQUITY	0.2182	7.20E+00	1.92E-09
R-squared	0.646539		
Adjusted R-squared	0.613812		

Note: The * indicates significance at 1%, ** at 5% and *** at 10%

Table 9 Correlated Random Effects - Hausman Test

Test cross-section random effects			
Test	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.591816	5	0.609542