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Lahore School of Economics

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Majid Ali, and Muhammad Aamir*
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| <i>Indexing/Abstracting</i> | EBSCO Host |
| <i>Editorial Staff:</i> | Tele. No: 0092 - 42 - 111-656-111 Ext. 286 |
| <i>Telefax:</i> | 0092 - 42 - 36561230 |
| <i>URL:</i> | www.lahoreschoolofeconomics.edu.pk |
| <i>E-mail:</i> | ljb@lahoreschool.edu.pk |
| <i>Publisher:</i> | Lahore School of Economics, Lahore, Pakistan. |

Correspondence relating to subscriptions and changes of address should be sent to *The Lahore Journal of Business*, Intersection Main Boulevard Phase VI DHA and Burki Road, Burki Lahore - 53200 - Pakistan.

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09 2021

THE LAHORE JOURNAL OF BUSINESS

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Pre-COVID Performance and Risk Assessment of Asset Management Companies; Evidence from an Emerging Market

Fouzia Hadi Ali*, **Javeria Barkaat****, **Majid Ali*****, and
Muhammad Aamir****

Abstract

By using the Autoregressive Distributed Lag (ARDL), and the Emerging Market Z-Score Model, we have examined the performance and factor of riskiness of Pakistan's asset management companies, for the years pertaining to 2013-2018. Moreover, we also tested the stability of the ARDL model. The findings reveal that microeconomic and macroeconomic factors have a long-run impact on the performance of asset management companies (AMCs). Besides this, the Emerging Market Z-Score Model also categorizes the asset management industry in the safe zone, which indicates that the industry has no probability of default. This study was delimited to Pre-COVID data available for asset management companies that were taken into consideration. We can arguably conclude that the Post-COVID performance, and riskiness of AMCs might have inconsistent outcomes with our study. This study's findings may encourage, and aid investors, fund managers, and market makers to revisit their long-term investment patterns, keeping in mind the post-COVID short term volatility dynamics of the industry, which was the primary limitation of this study.

Keywords: Emerging market Z-Score, asset management companies, ARDL, Pre-COVID.

JEL Classification: C3, C4, G3.

1. Introduction

The asset management industry is not independent of economic shocks. As Rizvi, Mirza, Naqvi, and Rahat (2020) have highlighted, the current coronavirus disease-19 (COVID-19) has been a surprisingly uncertain event, even greatly for financial markets. It is believed that asset

* Assistant Professor, Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.

** Research Associate, Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.

*** Assistant Professor, Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.

**** Assistant Professor, Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.

management companies (AMCs) play a significant role in boosting the pace of the emerging economies' financial stability (Ghosh, Adhikari, & Neogi, 2017). An emerging economy is primarily a country that is witnessing rapid economic growth (Vercueil, 2016). In emerging economies, asset management companies are considered to have the potential to prosper well in the financial system. In this regard, the asset management industry's worth has substantially increased to USD 89 trillion, as of the decade of 2010s, amounting to a total of USD 79 (BCG Global Asset Management Database, 2020). Likewise, the asset management companies have gained popularity in Pakistan as well. This is due to the assessment that a significant amount of focus was concentrated during the recent decade, on the asset management companies, in terms of the diversity and volume of funds that they have access to. According to the mutual funds association of Pakistan (MUFAP), about twenty asset management companies currently have a diverse range of 221 funds, as compared to the situation that prevailed 10 years back. This clearly shows the industry's importance that should not be undermined or ignored.

The progress and interest of the asset management companies, and the likely increase in the volumes show Pakistan's asset management industry's future investment potential. This is an area of research that should not be neglected, as it could provide useful insights for the relevant stakeholders. Over the years, Pakistan's mutual fund industry has witnessed remarkable growth. This happened primarily when the assets under the management grew to a staggering amount of PKR 607 billion, from PKR 25 billion. The most significant segment of the population of Pakistan comprises of the middle-class. While having little to invest, the rate of savings in this segment of the society is only 4.2 percent of the GDP. Therefore, it is beyond their means to invest and manage investments by themselves, in the same manner as the professionals do. Thus, the AMCs can grab the savings from this niche of the market, by introducing awareness for the public about the risk-related aspects, and the mitigation measures thereof. Usually, asset managers are considered connoisseurs in the field of investment, as they conduct fundamental and technical analyses, which investors usually are unable to do individually. The investors can let their savings grow for the short-term, medium-term, or long-term, in line with their investment objectives. However, investors lose the direct hold on securities, which the mutual funds usually keep, but ultimately these belong to the AMCs. Additionally, the transaction costs become minimal, as the AMCs transact in more substantial collective investments.

Interestingly, mutual funds in Pakistan have a distinctive structure. The AMCs have a principal role in the mutual funds' framework, while investing pooled money in diversified, liquid, and professionally managed investment schemes. These firms typically deal in mutual funds, pension funds, hedge funds, equities, debt instruments, etc. Besides this, asset management companies are registered under the Companies Ordinance 1984 as public limited companies. Moreover, they are also registered under the trade association, named as the Mutual Funds Association of Pakistan (MUFAP). MUFAP is a representative body, and licensed by the SECP. In compliance with the Non-Banking Financial Company Rules 2003, AMC ascertains a trust with the trustee, which can be a bank or a central depository company. The trustee also works as a custodian, supervises the transactions, and plays a key role in the clearing system. In addition to this, the registrar and transfer agents transact and document the investors' records. Reforms in the economy have been instrumental in this sector's growth. However, bearing in mind the Pakistani economy's scope and its contribution to the national savings, there is a long way for it to be in a legitimate position.

Motivated by recent studies, such as Rizvi et al. (2020), based on asset management companies and the role of COVID-19, we examined the Pre-COVID performance and riskiness of Pakistan's asset management companies. Admittedly, we faced some challenges as well. These included the non-availability of data on asset management companies, and the insufficient data on COVID-19, in order to conduct this research. Therefore, we thus delimited our analysis to the pre-COVID period. However, we can assert that since, to the best of our knowledge, there is no baseline study available in Pakistan's context, this study can work as a benchmark (a point of comparison), so as to study the post-COVID performance, and riskiness of asset management companies in the future.

2. Literature Review

Some recent work on the performance and riskiness of asset management companies includes Rizvi et al. (2020); Klingebiel (2000); Gandolfi and Arcuri (2013); Bazo, Verdu, and Santos (2010); Tahir (2019), among many others who have worked on asset management companies using a diversity of context, variables, and data methodology. In this regard, the Altman Z-Score has been used to measure the creditworthiness for the financial firms, in order to predict the probability of default. Besides this, the Altman model has also been prompted by the fundamentals associated with Basel II and Basel III (Altman, 2018). This model has

become a standard epitome, to direct the firms to improve their decision making that may provide them with better investment returns. In their pioneering paper, Ghosh et al., (2017) predicted bankruptcy, by applying the revised Altman model on the service firms. They also evaluated five top-tier asset management companies of India from the years ranging from 2010-2011, to 2014-2015. Altman (2005) testified the accuracy of the Z-score in the non- US scenario, by estimating the risk of default of 30 Mexican firms. Similarly, after the credit turmoil, Georgios, Kalliopi, and Kalliopi (2012) also anticipated the risk of default of six Greek banks, via the Altman's Z-score and other relevant financial ratios.

Similarly, Sharma (2013) applied the model to the government and financial sector as well. The study indicated a probability of default, or bankruptcy of some companies. Moreover, Shaheen and Javid (2014) also investigated credit risk via company ratings. In the same context, most studies in Pakistan provide evidence that is based on the probability of default of the companies that are listed in the Pakistan Stock Exchange across sectors, or on the mutual funds offered by the AMCs. However, to the best of our knowledge, no study is yet made to be available, that reveals the probability of default of bankruptcy in AMCs operating in Pakistan. Therefore, the present study examines the impact of macroeconomic and microeconomic factors on the performance and risk of twenty asset management companies, between the years 2013 and 2018. In order to measure the performance and risk of AMCs in emerging markets (EM), the Z-score has been applied to the data. The study results have helped to create a point of comparison for future studies, so as to assess the post-COVID performance and riskiness of asset management companies. Therefore, in light of the above discussion, the present study has the following research question:

- i. What is the impact of macroeconomic factors on the performance and risk of AMCs in Pakistan?
- ii. What is the impact of microeconomic factors on the performance and risk of AMCs in Pakistan?

3. Data and Methodology

The secondary data was gathered from the World Development Indicators, and the financial statements of AMCs (see the list in Appendix), through their annual reports. All the AMCs that were available were selected, as the annual reports were available only from the years

pertaining to 2013 to 2018, so the data collected was from a time span of five years only. In Pakistan, unlike the availability of published annual reports of mutual funds offered by AMCs, the annual reports of AMCs are typically not publicly available. Therefore, special written requests and permissions were sought from the Registrar of Companies, and the Securities and Exchange Commission of Pakistan (SECP) in Islamabad, in order to acquire and use the current research data. In terms of the data's relevance, the pre-COVID 19 data can be used to create a benchmark for future studies, so as to extend the same research on post-COVID 19 data, and offer a point of comparison based on the findings of the current study. Since the pandemic is still ongoing, future studies can be extended on the data for the next five years, starting from the year 2019. Moreover, company ratings, and the EM Z-Score were used as the dependent variables for the purpose of this study.

The microeconomic variables that have been taken into consideration, comprise of the total turnover ratio (TR), expense ratio (ER), net asset value (NAV), and the size. Whereas, the macroeconomic variables include the interest rate and inflation. Both the micro and the macroeconomic variables are the explanatory variables that have been taken into account. At the same time, company ratings are used to determine the credit soundness of the company crucially. The company ratings are usually measured when the issue of trust of the stakeholders comes to the surface. According to the rankings extracted from PACRA and VIS, the rating scale sourced from the VIS website positions AM1 to be excellent, AM2++, AM2+, AM2 to very good, AM3++, AM3+, AM3 to be good, AM4++, AM4+, AM4 to adequate, and AM5 to be a weak AMC. Moreover, the Emerging Markets Z-Score measures the probability of default of the firm as well. Other than that, the Altman's model has also been referred to, so as to predict distress. It is popularly known as the EM Z-Score model for non-manufacturing firms, and is computed as:

$$EM\ Z - Score = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05 X_4 \quad (1)$$

For the standardization of a score with a value of zero of the default firm, a positive 3.25 has been incorporated in the equation. Here, X_1 is the ratio of the working capital to total assets. On the other hand, the value of X_2 can be obtained by dividing the retained earnings to the total assets. Similarly, X_3 can be obtained by dividing the earnings before interest and taxes, to the total assets. Lastly, X_4 is calculated by dividing the net worth of the firm, with the total liabilities. If the computed score comes out to be higher than 2.60, it can be assumed that the firm is in a safe zone; where the

prospects of distress are very few. However, if it lies between the ranges of 1.10 to 2.60, then the firm falls into the grey zone, and the prospects of distress increase. If, however, it is less than 1.10, the firm goes into the danger zone, and the propensity of distress is very intense at this point.

The total turnover ratio measures the firm's trading activity, and is computed by the net revenue divided by the total assets. The data relating to this variable has been extracted from the annual reports of AMCs, which show the expense ratio, measured by the total operating expenses of AMCs divided by the total assets, and then multiplied by 100. In addition to this, the annual reports have been used to extract the data of this ratio. Net assets value (NAV) has been computed by the firm's net assets, divided by the number of its units, as extracted from the annual reports. It is expected that the firm's size would eventually influence the performance and risk; therefore, we have used it as a control variable in this study. This variable has been computed by taking the natural log of the firm's total assets, which have been sourced from the balance sheets of AMCs. The interest rate is taken to be the lending rate that was prevalent in the country at the time of data collection. The data regarding this factor was extracted from the World Development indicators via the World Bank Website. Moreover, we used inflation data from the World Development Indicators as well. Keeping these intricacies in mind, the following equations were formulated:

$$CR_{it} = \beta_0 + \beta_1 TR_{it} + \beta_2 NAV_{it} + \beta_3 ER_{it} + \beta_4 Size_{it} + \beta_5 INF_{it} + \beta_6 IR_{it} + \mu_t. \quad (2)$$

$$EMZ - Score_{it} = \beta_0 + \beta_1 TR_{it} + \beta_2 NAV_{it} + \beta_3 ER_{it} + \beta_4 Size_{it} + \beta_5 INF_{it} + \beta_6 IR_{it} + \mu_t. \quad (3)$$

Where, the IR measures the interest rate, INF stands for inflation, ER denotes the expense ratio, TR is the total turnover ratio, NAV is the Net Assets Value, and the SIZE is denoted by the size. Finally, μ_t is the error term for the regression equation, where i represents AMCs, and t represents the time.

This paper has also employed the Autoregressive Distributed Lag Model (ARDL), so as to recognize the impacts of the micro and macroeconomic factors, on the performance of AMCs. Nevertheless, the properties of all the variables, such as stationarity, were attested before the ARDL estimation. Other than that, an Augmented Dickey-Fuller (ADF) test has also been applied, in order to testify the stationarity. Also, to test the unit root, the ADF test has been referred to, which determines the

variables' stationarity, except for the company ratings, which is a dummy variable. ADF follows the IID identical independent distribution, and has been given preference due to its simplicity in dealing with the panel data.

4. Results and Discussion

This section presents the data analysis, results, and discussion of the two ARDL models. It is noteworthy that the results are based on both the models that have been taken into consideration. In the first model, the company ratings have been used as the exploratory variable. While the impact of the micro and macroeconomic variables have been used to observe their influence on the long-run performance of AMCs. In the second model, the EM Z-Score has been taken as the dependent variable, wherein the effect of the micro and macroeconomic variables, on the risk of AMCs has been examined. Moreover, the stability tests such as CUSUM and CUSUMQ have also been conducted for each of the ARDL models. Finally, the coefficient of error correction has been discussed.

Table 1 depicts the results of the ADF test, for the determination of stationarity. The results revealed that some variables tend to become stationary at a certain level, while other variables become stationary at the very first difference.

Table 1: Result of Augmented Dickey-Fuller Unit Root Test

| Variables | Order of integration | ADF test statistic | Probability |
|-----------|----------------------|--------------------|-------------|
| TR | I (0) | 57.6934 | 0.0346* |
| NAV | I (0) | 66.1637 | 0.0057** |
| ER | I (0) | 64.5154 | 0.0083** |
| Size | I (0) | 66.7024 | 0.0051** |
| INF | I (1) | 57.4752 | 0.0361* |
| IR | I (1) | 58.6369 | 0.0288* |
| Z_Score | I (0) | 98.4102 | 0.0000*** |

Source: Researcher's computation following APA format

Note: *P < 0.05, **P < 0.01, ***P < 0.001

Since the variables are in the combination of I (0) and I (1), which fulfills the assumptions of ARDL proposed by (Pesaran, Shin, & Smith, 1996), this state of the art approach has provided authentic results. This is in contrast to the Johansen-Jesulius Cointegration, which typically requires all the variables to be stationary at I (1). The lag length has been selected, based on the Akaike Information Criterion (AIC), which automatically selects the lag length for the variables. So, the first model's lag length is

based on ARDL (1, 1, 0, 0, 1, 1, 0), which described that one lag of the variables pertaining to TR, CR, SIZE, and INF, has been used. Similarly, for the second model, the lag length is ARDL (1, 0, 0, 1, 0, 1, 0), which shows that one lag of the EM Z-Score, ER, and IR has been taken into consideration. Table 2 represents the short-term dynamics of the Autoregressive Distributed Lag Model 1. The outcomes have represented that the coefficient of determination is 0.69196, which indicates that the overall goodness of fit of the estimated model is 69.19 percent. This also seems to imply that the explanatory variables explain 69.19 percent of the entire variations, in the performance of the AMCs.

Table 2: Autoregressive Distributed Lag Estimates

| Regressor | Coefficient | Standard Error | T-Ratio [Prob] |
|-----------|-------------|----------------|-----------------|
| CR(-1) | 0.6472 | 0.0711 | 9.0993 [0.000] |
| TR | -2.2997 | 0.3473 | -6.6214 [0.000] |
| TR(-1) | 1.1651 | 0.3477 | 3.3506 [0.001] |
| NAV | -0.00016 | 0.00016 | -1.0024 [0.319] |
| ER | 0.00954 | 0.00225 | 0.4236 [0.673] |
| SIZE | -0.0505 | 0.0163 | -3.1101 [0.003] |
| SIZE(-1) | 0.0379 | 0.0159 | 2.3759 [0.020] |
| INF | -0.0779 | 0.0525 | -1.4845 [0.141] |
| INF(-1) | -0.0916 | 0.0528 | -1.7344 [0.086] |
| IR | 0.1502 | 0.0392 | 3.8263 [0.000] |

Note: The dependent variable is company ratings.

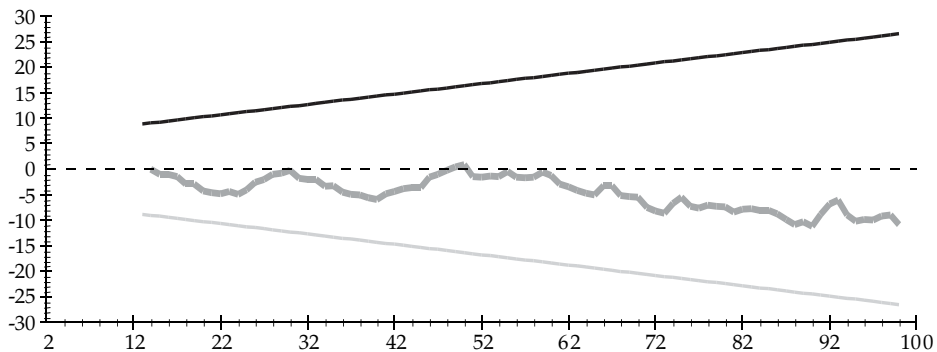
Where, $R\text{-Squared} = 0.69196$, $R\text{-Bar-Squared} = 0.66081$ and $F\text{-statistics} = 22.2136 [0.000]$

The results indicate that the turnover ratio has a negative significant bearing on the performance of AMC in Pakistan. Whereas, the lag of turnover ratio has a significant positive impact on the performance of AMCs. This outcome indicates a long-term relationship between the turnover ratio and performance. So we can infer that the increase in the trading activity in the preceding period, leads to better ratings. Besides this, the estimated result reveals that the net asset value has a negative influence, while the expense ratio has a positive, but insignificant influence on the company ratings. In the same context, Huang, Pilbeam, and Pouliot (2019) also suggested that an increase in the expense ratio, due to the added costs, combined with active managerial practices, tends to enhance the performance of firms. It can also be inferred that the expense ratio is allied with the efficiency of the managers. In this regard, the outcome is in line with the results put forth by Chen, Hong, Huang, and Kubik, (2004). Moreover, the size of AMCs has a negative, and significant effect on the company ratings as well. In contrast, the lag of size shows a significant and positive bearing on the performance of AMCs. This reveals that large

AMCs, in terms of their size, will be able to capture a good rating, and then perform better. The estimates further reveal that inflation has a negative, but insignificant impact on the performance of AMCs in Pakistan. These results are in line with a study conducted by Linter (1973). The majority of the results of the present study have followed the a-priori expectation. Lastly, the results also revealed that the interest rate has a positive and significant influence on the performance of AMCs in Pakistan.

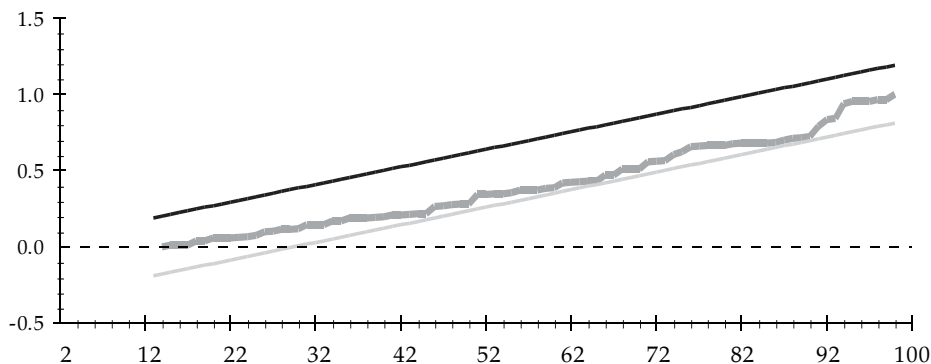
Additionally, this study has also analyzed the stability of the first model. The cumulative sum of recursive residuals (CUSUM), and the sum of the square of recursive residuals (CUSUMQ) have been applied correspondingly, in order to accomplish this purpose. In this regard, Figures 1 and 2 depict the plots of the CUSUM and CUSUMQ, which have been observed to be well within the critical margins of 5 percent. It can therefore be inferred that the model is relatively stable.

Figure 1: The straight lines represent critical bounds at a 5 percent significance level



Source: Researchers' Computation 2020

Figure 2: The straight lines represent critical bounds at a 5 percent significance level



Source: Researchers' Computation 2020

Table 3 represents the outcomes of the long-run estimates of model I, using the ARDL approach. Since the turnover ratio, inflation, and interest rate are significant in statistical terms, there happens to be long-run stability in the model of AMCs' performance, specifically in Pakistan's context.

Table 3: Long Run Estimates using ARDL

| Regressor | Coefficient | Standard Error | T-Ratio [Prob] |
|-----------|-------------|----------------|-----------------|
| TR | -3.2162 | 0.9309 | -3.4547 [0.001] |
| NAV | -0.00046 | 0.00044 | -1.0360 [0.303] |
| ER | 0.00270 | 0.00631 | 0.4285 [0.669] |
| SIZE | -0.0359 | 0.0298 | -1.2027 [0.232] |
| INF | -0.4805 | 0.2275 | -2.1120 [0.037] |
| IR | 0.4257 | 0.0799 | 5.3228 [0.000] |

Note. The dependent variable is Company Ratings.

The error correction representation reveals that the error correction term is significant and negative, as desired according to the objectives of the study. In precise terms, the ECM (-1) is valued at 0.35279. We can also infer that an alteration to the long-run equilibrium, in reaction to the disequilibrium due to the short-term variability of the proceeding point in time, is at a speed of 35.28 percent.

Table 4 signifies the estimates of the ARDL model II. The coefficient of determination is 0.49740, which implies that the overall goodness of fit is at a point of 49.74 percent. It suggests that the macro and microeconomic factors explain 49.74 percent of the total fluctuations in the EM Z-Score. It is noteworthy that the EM Z-Score measures the default propensity. The

results show that the turnover ratio, and the net asset value have an insignificant, but negative impact on the EM Z-Score of AMCs, specifically in Pakistan. This result is also consistent with the conclusions of Chen et al. (2002). Besides this, the expense ratio also negatively affects the EM Z-Score, at a 10 percent significance level. This implies that an increase in the expense ratio, due to the expenses related to active management, lessens the risk in AMCs (Huang et al., 2019). In light of the model's outcomes, the lag of expense ratio has a significant and positive impact on the default risk of AMCs.

Moreover, the results also reveal that the variable 'size' has a significant and positive effect that is pertinent on the risk of AMCs operating in Pakistan. This result shows that the bigger AMC, in terms of size, possess ample resources, so as to cope with the unexpected circumstances before the real crunch occurs. Similarly, the rate of interest rate has a significant and positive influence on the riskiness that is associated with AMCs. In contrast, the lag of interest rate has a negative, but significant impact on the EM Z-Score of AMCs. Lastly, the estimated results also revealed that the inflation rate has a negative and significant influence on the risk that exists among AMCs in Pakistan. The findings are grounded on the fact that the stretching force that is used to retrieve, and consume the expandable items, results in curb savings. This result lends credence to the outcomes of (Lemantile, 2017) and (Linter, 1973).

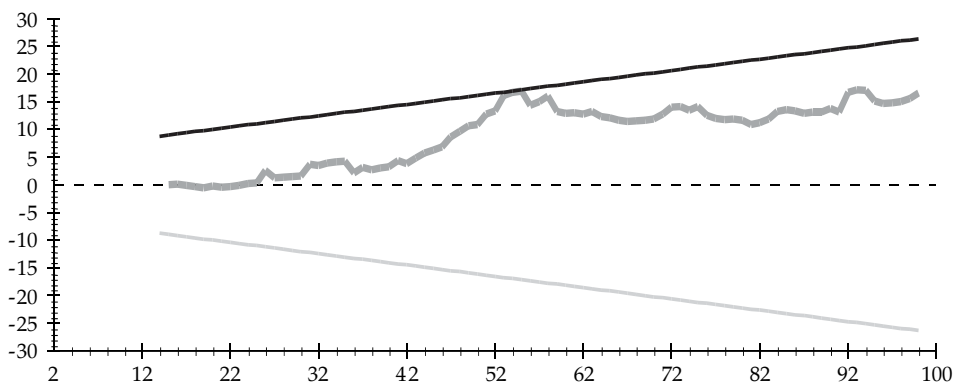
Table 4: Autoregressive Distributed Lag Estimates

| Regressor | Coefficient | Standard Error | T-Ratio[Prob] |
|------------------|--------------------|-----------------------|----------------------|
| Z_SCORE(-1) | 0.5572 | 0.0871 | 6.3982[0.000] |
| TR | -9.6156 | 5.9266 | -1.6225[0.108] |
| NAV | -0.00203 | 0.00324 | -1.4091[0.162] |
| ER | -0.0908 | 0.0467 | -1.9465[0.055] |
| ER(-1) | 0.1025 | 0.0434 | 2.3617[0.020] |
| SIZE | 0.9614 | 0.2851 | 3.3716[0.001] |
| IR | 2.6745 | 0.6051 | 4.4201[0.000] |
| IR(-1) | -1.4857 | 0.5082 | -2.9236[0.004] |
| INF | -0.6327 | 0.9419 | -6.716[0.504] |

Note. The dependent variable is EM Z-Score.

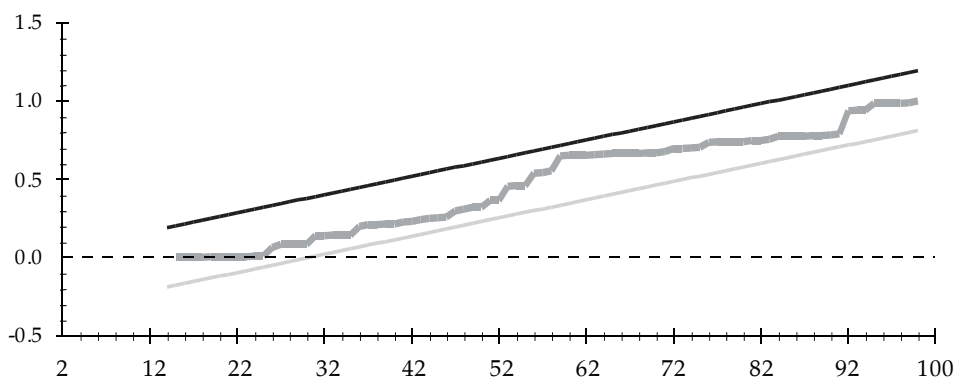
Where, $R\text{-Squared} = .49740$, $R\text{-Bar-Squared} = .45272$ and $F\text{-statistics} = 10.8162$ [0.000].

For the second model, the CUSUM and CUSUMQ measures are applied, respectively, in order to check whether the model is stable or not. Figures 3 and 4 present the CUSUM and CUSUMQ plots within the critical boundaries of 5 percent. Hence, the stability of the model is evident from the plots.



Note: The straight lines represent critical bounds at a 5 percent significance level.

Source: Researchers' Computation 2020



Note: The straight lines represent the critical bounds, at a 5 percent level of significance.

Source: Researchers' Computation 2020

Table 5 presents the outcomes of the long-run estimates of model II, using the ARDL approach. Meanwhile, with the interest and inflation rates being statistically significant, it can be inferred that long-run stability endures in the model of risk, among the AMCs in Pakistan.

Table 5: Long Run Estimates using ARDL

| Regressors | Coefficients | Standard Errors | T-Ratio[Prob] |
|------------|--------------|-----------------|----------------|
| TR | -21.7173 | 13.4726 | -1.6120[0.110] |
| NAV | -0.00103 | 0.00700 | -1.4730[0.144] |
| ER | 0.0265 | 0.1249 | 0.2118[0.833] |
| SIZE | -0.0147 | 0.4052 | -0.0364[0.971] |
| IR | 2.6849 | 0.9234 | 2.9076[0.005] |
| INF | -1.4289 | 2.1432 | -0.6667[0.507] |

Note. The dependent variable is EM Z-Score

From the re-parameterization of the error correction estimates, it is evident that the ECM (-1) indicates a negative sign, and is significant, statistically at a 5 percent significance level. In more specific terms, the ECM (-1) is valued at 0.44276. Therefore, we can deduce that the adjustment to the long-run equilibrium, in reaction to the disequilibrium by short term inconsistencies of the proceeding point in time, is at a speed of 44.28 percent.

The study is not free from its due limitations. The present study has only focused on five years of data. Hence, the future studies should focus on data that is available for extended years as well. Moreover, the study results are generalizable according to an emerging market like Pakistan, so the future studies should ideally focus on cross-country comparisons that come under the definition of emerging markets.

5. Conclusion

This paper attempts to assess the impact of macro and microeconomic variables on the performance and risks that exist among the AMCs in Pakistan, by using the state-of-the-art approach, ARDL model. The findings suggest that the performance of the AMCs is significantly sensitive to its own lag term, trading activity, its lag, size of AMCs of the current and preceding period, and the interest rate. Whereas the risk is affected by its lag term, the expense ratio of the current and preceding year, the size of the AMC, and the interest rate in current and the previous years. The study has also focused on the EM Z-Score of all the AMCs that are listed in MUFAP, and appropriately evaluated the performance and risks. The findings reveal that the overall the mutual fund industry is in a safe zone, except for two AMCs, namely Faysal AMC and Habib AMC, which happen to be in the grey zone, and require close attention by the SECP.

The precision of the EM Z-Score in the literature that is based on financial distress primarily led this research to choose the Altman's model. This is so because the ratios in the model, best fit the mutual funds industry. The results of this study are equipped to enable potential investors and financial institutions to better comprehend the factors of performance and risk among the AMCs. In this regard, the respective companies should be anxious about the factors that drag down the Z-Score of the AMCs, and improve their performance by understanding what factors tend to have a crucial impact on their respective performance variables. In a nutshell, the objective of boosting up the revenues, and

lessening the risks, are very well, and practically achievable. This is a starting point for researchers and practitioners for looking into a more reliable research in the advanced context of AMC's in Pakistan.

This study's findings may help investors, fund managers, and market makers to revisit their long-term investment patterns, keeping in mind the post-COVID short term volatility dynamics of the industry, which was the main limitation of our study. Moreover, this study will also help the policy-making authorities to improve their policies, provide incentives like improving the legal and information systems, etc., so as to create an investment-friendly environment in order to motivate the investors.

The study advocates the usage of EM Z-Score, as it is unbeaten in 90 percent of the cases that it is applied to. This study also suggests using the EM-Z Score, as part of a mandatory disclosure, for all the AMC's listed in the MUFAP. It also recommends the regulatory bodies to publish the financial statements of AMC's publicly, in the same manner as their respective funds' financial statements are published and accessible to the public. This will help future researchers to get an open and candid access to the financial data of AMC's. Even though the AMC's in Pakistan can offer safe investment opportunities to the middle-class investors, who primarily dominate the Pakistani population, the overall investment is still believed to be low. The regulatory bodies should play a role in introducing relevant awareness campaigns for the public, so as to propagate safer investment opportunities to small savers.

References

- Altman, E. I. (2005). An emerging market credit scoring system for corporate bonds. *Emerging Markets Review*, 6(4), 311-323.
- Altman, E. I. (2018). A fifty-year retrospective on credit risk models, the Altman Z-score family of models and their applications to financial markets and managerial strategies. *Journal of Credit Risk*, 14(4), 1-34.
- Boston Consulting Group. (2020). *Global Asset Management 2020: Protect Adapt and Innovate*. Retrieved from https://image-src.bcg.com/Images/BCG-Global-Asset-Management-2020-May-2020-r_tcm9-247209.pdf
- Chen, J., Hong, H. G., Huang, M., & Kubik, J. D. (2004). Does fund size erode performance? The role of liquidity and organization. *American Economic Review*, 94(5), 1276-1302.
- Gandolfi, G., & Arcuri, M. C. (2013). Italian asset management companies: Governance structure and mutual funds. *Investment Management and Financial Innovations*, 10(2), 64-72.
- Georgios, K., Kalliopi, K., & Kalliopi, M. (2012, May). In Edward I. Altman (Ed.), *Model of bankruptcy and the implementation of it on the Greek cooperative banks*. Proceedings of the 9th Annual MIBS International Conference, (pp. 14-18), Cambridge, MA, USA.
- Ghosh, U., Adhikari, C., & Neogi, M. A. (2017). Study of risk evaluation in asset management companies through EM Z-Score model. *Journal of Advance Management and Research*, 5(5), 225-243.
- Huang, R., Pilbeam, K., & Pouliot, W. (2019). Do actively managed US mutual funds produce positive alpha? *Journal of Economic Behavior and Organization*. 1-21.
- Klingebiel, D. (2000). *The use of asset management companies in the resolution of banking crises: Cross-country experience* (No. 2284). The World Bank.
- Lemantile, A. L. (2017). *Effects of macro-economic factors on the financial performance of mutual funds in Kenya* (Doctoral dissertation). United States International University-Africa, Kenya.

- Lintner, J. (1973). Inflation and common stock prices in a cyclical context. *Annual Report. National Bureau of Economic Research. New York, NY: Author, 23-36.*
- Pesaran, M. H., Shin, Y., & Smith, R. J. (1996). *Testing for the 'Existence of a Long-run Relationship'* (No. 9622). Cambridge (England): Cambridge University Press.
- Rizvi, S. K. A., Mirza, N., Naqvi, B., & Rahat, B. (2020). Covid-19 and asset management in EU: a preliminary assessment of performance and investment styles. *Journal of Asset Management, 21(4), 281-291.*
- Shaheen, R., & Javid, A. Y. (2014). *Effect of Credit Rating on Firm Performance and Stock Return: Evidence from KSE Listed Firms* (No. 2014: 104). Pakistan Institute of Development Economics.
- Sharma, N. (2013). Altman model and financial soundness of Indian banks. *International Journal of Accounting and Finance, 3(2), 55-60.*
- Tahir, M. (2019). *Analyzing the performance of asset management companies in Pakistan* (unpublished Master's thesis). University of The Punjab, Lahore, Pakistan.
- Vercueil, J. (2016). Emerging Economies. Genealogy, Evolutions and Vulnerabilities. <http://www.osservatorio-economie-emergenti-torino.it/news/125-economie-emergenti-emerging-economies-04.html>

Appendix

List of Asset Management Companies listed in MUFAP

| Sr. No. | AMCs |
|----------------|--|
| 1 | ABL Asset Management Company Limited |
| 2 | AKD Investment Management Limited |
| 3 | Al Meezan Investment Management Limited |
| 4 | Alfalah GHP Investment Management Limited |
| 5 | Atlas Asset Management Limited |
| 6 | AWT Investments Limited (Formerly: Primus Investment Management Limited) |
| 7 | 786 Investments Limited (Formerly: Dawood Capital Management Limited) |
| 8 | BMA Asset Management Company Limited |
| 9 | Faysal Asset Management Limited |
| 10 | First Capital Investments Limited |
| 11 | Habib Asset Management Limited |
| 12 | HBL Asset Management Limited |
| 13 | JS Investments Limited |
| 14 | Lakson Investments Limited |
| 15 | Magnus Investments Advisors Limited |
| 16 | MCB-Arif Habib Savings and Investments Limited |
| 17 | National Investment Trust Limited |
| 18 | NBP Fund Management Limited (Formerly: NBP Fullerton Asset Management Limited) |
| 19 | Pak Oman Asset Management Company Limited |
| 20 | UBL Fund Managers Limited |

The Mediating Role of Customer Engagement on Brand Involvement and Emotional Brand Attachment

Shehla Qaiser^{*}, Muhammad Adnan Bashir^{}, Muhammad Yasir^{***}, and Syed Muhammad Fahim^{****}**

Abstract

Online customer brand engagement (OCBE) has become an important relationship marketing construct within the realm of academics, as well as with practitioners. The emanating literature on OCBE offers diverse definitions, but those that are often presented without a mutual agreement. The extant literature based on this particular discipline primarily focused on the aspect of relationship marketing, with respect to retaining customers. But with the addition of customer engagement, it was not only confined towards maintaining customer retention, but also ventured into the subject of attracting new customers. This paper aims to validate a nomological set of theoretical relationships that include OCBE, brand involvement (BI), and emotional brand engagement (EBA). It provides a new outcome, EBA that has also been suggested in the previous studies. Also, it is noteworthy that this study has undertaken before brand usage intent that is used as a valid outcome. This study is exploratory in nature, and is limited to a base of customers who are engaged with a brand, by simply liking it on Facebook. In this regard, a survey of 302 respondents provided data, by resorting to purposive sampling between the age groups of 18 – 55 years. Brand involvement is an antecedent of OCBE, and emotional brand attachment (EBA) was the outcome that was achieved. A further validation of this outcome was done through the mediation analysis, which concluded that only the affective dimension of OCBE had a mediating effect on the EBA. The affective dimension of OCBE has the most effect on the outcome variable EBA, as compared to the cognitive processing and activation dimensions of OCBE. This study concluded that marketers could perhaps devise social media strategies, in order to engage customers through emotions, and as a result help increase customer retention and loyalty.

Keywords: Brand involvement, emotional brand attachment, online customer brand engagement, consumer behavior.

JEL Classification: M30, M31, M39

* MPhil Scholar, Institute of Business Management, Karachi, Pakistan.

** Assistant Professor, Institute of Business Management, Karachi, Pakistan.

*** PhD Scholar, Institute of Business Management, Karachi, Pakistan.

**** Assistant Professor, Institute of Business Management, Karachi, Pakistan.

1. Introduction

In the past two decades, the role of relationship marketing has been to devise strategies that can be used to retain customers. However, with the advent of engagement, the role of relationship marketing has significantly increased, by not only satisfying loyal customers, but by also engaging them beyond their decision to make a purchase. In addition to this, the role of relationship marketing also includes focusing on potential customers, and devising strategies to attract new customers, and effectively connecting with them (Vivek, Beatty, & Morgan, 2012). Over time, as the markets and consumer behavior evolved, the goal of marketers transformed from nurturing relationship marketing, to engaging customers, by understanding that brand loyalty alone is not enough to retain customers (Kumar et al., 2010). Moreover, the literature developed in psychology advocated that engaged partners tend to have a strong emotional attachment, and enjoy more satisfying relationships (Kitayama, Markus, & Kurokawa, 2000). In this regard, when all the aspects and activities of engagement are not taken into consideration, customers can mistakenly be overvalued, or undervalued (Kumar et al., 2010). This does not only result in miscalculating returns on the marketing activities, but can also lead to improper resource allocation, which ultimately affects the firm's equity and value (Rust, Ambler, Carpenter, Kumar, & Srivastava, 2004; Verhoef et al., 2009).

The aim of relationship marketing has been to build long-lasting relationships with the customers (Berry & Parasuraman, 2004). Social media enables customers to create stories that are related to brands, and the brand image, by helping them share and exchange information about their favorite brands (Gensler, Völckner, Liu-Thompkins, & Wiertz, 2013). Marketers are now concentrating on building good relationships with customers that go beyond purchases, and the customers in return feel more connected to the people and organizations behind these brands that they frequently use (Kumar et al., 2010). Due to this positive relationship building, customers are continuously providing information to marketing firms, and this process is becoming increasingly interactive. This essentially helps in building long-term bonds between the customers and the firms, adding elements of engagement to effective relationship marketing (Vivek et al., 2012). As a result, customers have now become more participative, perceptive, powerful, and want to actively engage with brands, who co-direct the way they are perceiving marketing activities. Following the same context, the topic of online customer brand engagement has captivated immense interest among the experts who

study other related disciplines, such as information systems, psychology, education, management, and marketing. As a consequence, this has provoked and triggered a new wave of understanding when it comes to customer-brand interaction (Hollebeek, 2011). Marketers also realize the immense potential in these developments, and believe that an online engagement strategy can effectively aid in providing a strategic advantage, and give the firms the capability to be more lucrative than their competitors (Gorgus, 2016). In light of these developments, there is a persistent need to understand the drivers and outcomes of OCBE, in order to develop strategies for effective and positive relationship marketing.

The challenges of the Digital era have given birth to a new term, OCBE, which primarily represents the customers' interactions with the various brands that they come in contact with (Edelman, 2007). There has been an ever-growing interest in the active engagement and attention given to the customer, by marketers, so as to become more lucrative in the interactions that are made through social media. However, there is a paucity of literature in this particular field of marketing. It is noteworthy that, in relationship marketing there exists a gap in terms of the active management of online engagement with brands, and there is also a dire need to understand the process of engagement from an academic point of view (Gorgus, 2016).

Online customers who are engaged by the brand, show enhanced levels of loyalty, trust, commitment, satisfaction, and emotional bonding towards the focal brand in consideration (Brodie, Ilic, Juric, & Hollebeek, 2013). Engagement has often been studied in the Pakistani context, in different fields of research. Some of these fields are often related to human resource management, with a focus on employee engagement (Ahmed & Ansari, 2020), while other studies are based on customer engagement in terms of gender and brand relationships (Bashir & Ali, 2016). In this regard, researchers have recommended various predictors and outcomes of engagement, and have also suggested that there is a need to corroborate these proposed variables with quantitative methods, in order to test the scale of engagement in different situations (Mollen & Wilson, 2010). The construct of engagement is beneficial in determining which segment to cater to, while at the same time, devising marketing strategies and creating engaging Facebook content (Gummerus, Liljander, Weman, & Pihlström, 2012). The OCBE is proposed in order to highlight the cognitive, emotional and behavioral contributions that come into play, especially when interacting with a specific brand. Therefore, this concept is in mutual understanding with the social exchange theory (Hollebeek, Glynn, & Brodie, 2014). OCBE

is the customer's spontaneous contribution towards the focal brand, which goes beyond the purchase decision (Pansari & Kumar, 2017). In this regard, a 10-item scale was validated by (Hollebeek et al., 2014), in order to measure the three-dimensional OCBE measurement scale. In broad terms, there are various predictors of engagement, as it is an iterative process that ideally takes time to take its complete course (Bowden, 2008). However, it is uncertain whether OCBE is mostly behavioral in nature (Van Doorn et al., 2010), or has any additional cognitive and emotional facets to its key features (Harrigan et al., 2018). Moreover, the conceptual network of OCBE is also evolving continuously, and is mostly presented in theoretical terms (Hollebeek et al., 2014; Vivek et al., 2012), by exploring the key relationships that have managerial implications attached to them. The Marketing Science Institute (MSI) recommends that OCBE should ideally be the focal preference of research in the coming years. The emphasis should be laid upon the definition and measurement scales, and also on how social media can aid in devising strategies to enhance engagement behaviors (Rizley, 2014). In this context, the antecedents and consequences of customer engagement have become critical factors that need to be decoded, so that marketers can devise effective and appropriate strategies, accordingly (Pansari & Kumar, 2017).

When a Facebook user likes a brand's page, and follows it, in order to get frequent updates of the products that are being offered, a phenomenon that can be termed as online brand engagement (Wallace, Buil, Chernatony, De, & Buil, 2014) comes into play. Also, engagement is inclusive, and incorporates every individual who is connecting with the Facebook brand page, by purchasing, or not purchasing, the brand (Gorgus 2016). Therefore, it can be assumed that the platform, Facebook, has become a major marketing platform for brands to delve into positive engagement, by creating brand awareness. Brands, by the number of likes, shares, or comments they get on Facebook, show that consumers who tend to like, share or comment on a Facebook page are considered to be more engaged with a particular brand (Malhotra & Dash, 2010). Thus, keeping these intricacies in mind, the objective of this study is to determine the mediating effect of OCBE, on BI and EBA. All the users of Facebook pages, who have liked at least one favorite clothing brand, are either male or female, between the age group of 18 and above, and residing in Karachi, constitute towards the sample population for this research. A proposed conceptual model of OCBE is offered, and includes BI as an antecedent, and EBA as the outcome.

2. Theoretical Background and Hypotheses Development

2.1. *Brand Involvement and OCBE*

It is evident from the extant literature that brand involvement is a predominant driver of OCBE. It manifests the needs and values of customers' interest in a particular brand, by processing the intellectual information that is available for this purpose (De Vries & Carlson, 2014). The term engagement refers to a condition where individuals are fully involved, occupied, or captivated by a brand, giving it the liberty of their uninterrupted attention (Higgins, 2009). Customers can nurture a high or low level of emotional, or informational involvement towards their preferred social media. Highly engaged customers tend to gather more information about their preferred brands, and can also acquire extensive knowledge of competitive brands, before making their purchase decisions (Bowden, 2008). However, customers who have a lower level of engagement with the brands, make use of secondary clues and ponder deeper into the actual knowledge available regarding a particular brand of interest (Gordon, McKeage, & Fox, 1998). According to the Interdependence Theory, being actively interactive and engaged towards any brand is a more rewarding experience for customers (Van Lange & Balliet, 2015). This theory emphasizes on maintaining communication and interaction between the customers and the focal brand, as well as creating long-lasting relationships that go beyond the purchase decisions (Van Lange & Balliet, 2015). Involvement here is not only taken to be behavioral, but is also considered to be a cognitive, affective, or motivational driver (Zaichkowsky, 1985). In formal terms, engagement comprises of three interactive dimensions; cognitive, affective, and behavioral (Harrigan et al., 2018). At the cognitive level, BI leads to online engagement. This then results in brand-related thought processing, and is linked to how much a customer speculates about a particular brand. At the affective level, customers with a positive online experience can view a brand as being fascinating. Lastly, at the activation level of engagement, estimations about the amount of time that would be spent switching from one social media site to another, by the customer, are made (Hollebeek et al., 2014).

Keeping these factors in mind, the following hypotheses have been formulated:

H_{1a}: BI has a positive link with the cognitive processing dimension of OCBE

H_{1b}: BI has a positive relationship with the affective dimension of OCBE

H_{1c}: BI has a positive associations with the activation dimension of OCBE.

2.2. *OCBE and Emotional Brand Attachment*

According to research studies, emotions tend to play a pivotal role in determining consumer behavior and purchase decisions (Gaur, Herjanto, & Makkar, 2014; Holbrook, 1995). When customers become emotionally attached to a brand, they perceive it to be an extension of their self, and consider it to be meaningful and significant in their lives (Park, Macinnis, & Priester, 2006). Lichtenberg (2001), the attachment theorist, suggested that human behavior is guided by a set of five motivational systems. Out of these motivational systems, the attachment-affiliation system, and the exploration-assertion system are of particular relevance to this study. The attachment system stimulates closeness and care-seeking behaviors, whereas the exploration system stimulates engagement with the surroundings. Periodic repetition of this engagement behavior results in the molding of the behavior, and any related emotional states that might be experienced. Eventually, there is an emergence of an unconscious psychological structure (an internal working model of the relationship), which reveals the factors of conscious awareness, as a long-term, specific affective bond that is extended towards the attachment figure (Morgan, 2010). A customer can be easily satisfied after consuming a particular brand, but the emotional attachment develops after numerous interactions with it. In this regard, EBA connects a customer to a focal brand that portrays feelings of passion, affection, and connection (Thomson, Macinnis, & Park, 2005). In contextual terms, affection refers to a feeling of amiability, peace, and affection of the customers, towards a focal brand. In addition to this, a connection refers to a feeling of attachment towards a focal brand, while passion refers to a feeling of customer engagement and satisfaction, with a focal brand (Thomson et al., 2005). It is common for customers to become emotionally attached to material possessions, such as brands (Schultz & Baker, 2004). Emotions tend to positively or negatively influence our decisions, and connect or disconnect customers towards the brands that they interact with. In this manner, an emotional connection, albeit negative, between a brand, and its customer is gradually formed (Malär, Krohmer, Hoyer, & Nyffenegger, 2011). The attachment theory advocates that the degree of emotional attachment that is linked to a brand, anticipates the nature of the individual's interaction with that brand (Bowlby & Ainsworth, 2013). Although this theory targets human relationships, earlier research has demonstrated that consumers can

nurture a relationship with brands, just like they do with humans (Aaker, 1997). A customer's emotional connection to a focal brand can anticipate feelings of engagement and devotion towards a particular brand (Thomson et al., 2005). This is the outcome of engagement between brands and customers, that the customers experience on social media (Phillips & Baumgartner, 2002), that is created through relationship marketing. Therefore, the dependent outcome variable in this study is the EBA, that is derived from the attachment theory (Bowlby & Ainsworth, 2013). Thus, the hypotheses developed in this regard propose that;

H_{2a}: The cognitive processing dimension of OCBE has a significant effect on EBA.

H_{2b}: The affective dimension of OCBE has a significant effect on EBA.

H_{2c}: The activation dimension of OCBE has a significant effect on EBA.

2.3. Mediated Effects

Significant relational outcomes, such as greater commitment, confidence, emotional brand attachment, and loyalty can also be the possible consequences of OCBE (Brodie et al., 2013). In order to create OCBE, that is not only transient, but can also lead to an emotional and prolonged relationship between two parties, if handled competently, the interactive dealings of shoppers and retailers on social networking sites have been deduced. It is likely that sales will also increase based on this phase of enhanced consumer involvement. This is primarily because engaged customers are not only pleased or committed, but are also explicitly linked to the brand of their choice. Therefore, the participation of customers on social networking sites is primarily supported by an emotional attachment (Toor, Husnain, & Hussain, 2017).

For further validation of the model, the mediation analysis hypotheses propose that;

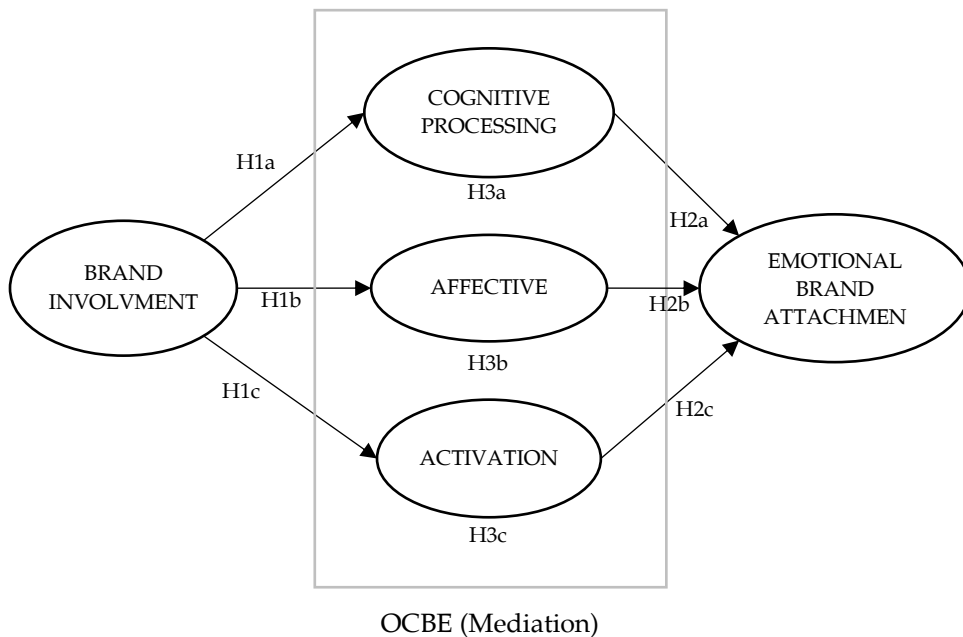
H_{3a}: The cognitive processing dimension of OCBE mediates the effect of brand involvement on emotional brand attachment.

H_{3b}: The affective dimension of OCBE mediates the effect of brand involvement on emotional brand attachment.

H_{3c}: The activation dimension of OCBE mediates the effect of brand involvement on emotional brand attachment.

The relationships among the study constructs as proposed in the above-mentioned hypotheses are depicted in the following Figure 1.

Figure 1: Conceptual Model



3. Research Methodology

3.1. Data collection

For the purpose of this study, the primary data was collected through a questionnaire that was circulated in person, and through the internet. Additionally, this questionnaire was adopted by using the existing validated instruments. The literature review suggests that Facebook is currently the best social media tool that can be utilized to create positive online brand engagement. The respondents of this study were informed about the voluntary nature of their participation, and were also ensured of complete anonymity. There were two screening questions for the respondents, before qualifying for the survey. The first screening question was whether they have liked any Facebook pages, and the second was whether they have a favorite clothing brand that they have liked on Facebook, and are following that brand for frequent updates. The total number of respondents were 320, but after a preliminary screening of the data, 18 questionnaires were deemed redundant due to non-engaging responses. The antecedents in this model were identified to be brand

involvement, the three mediators that represent the dimensions of OCBE, and the outcome variable, that is the emotional brand attachment. The constructs of the study were measured using the multi-item, 5-point Likert Scales, with a scale of 5 representing a response of strongly agreed, and 1 representing strongly disagreed. Moreover, the BI scale has been adapted from (De Vries & Carlson, 2014), and contains six items ($\alpha = 0.91$). The EBA scale has been adapted from (Levy & Hino, 2016), and also contains six items ($\alpha = 0.92$). The OCBE scale has been adapted from (Hollebeek et al., 2014), and contains three-dimensional constructs, that further contain ten items ($\alpha = 0.93$). In addition to this, for the model fit and hypotheses, the structural equation model (SEM) in IBM AMOS 21, and for the mediation analysis PROCESS 3.3 (Hayes, 2012) software were undertaken.

Table 1: Demographic Profile

| Demographics | No. | (%) (Approximately) |
|--------------------------|------------|----------------------------|
| <i>Gender</i> | | |
| Male | 143 | 47.4 |
| Female | 159 | 52.6 |
| <i>Age</i> | | |
| 18 - 25 | 112 | 37.1 |
| 26 - 35 | 84 | 27.8 |
| 36 - 45 | 60 | 19.9 |
| 46 - 55 | 26 | 8.6 |
| >55 | 20 | 6.6 |
| <i>Employment status</i> | | |
| Employed | 150 | 49.7 |
| Unemployed | 83 | 27.5 |
| Self-employed | 69 | 22.8 |
| <i>Monthly income</i> | | |
| <50 k | 140 | 46.4 |
| 50k – 100k | 76 | 25.2 |
| 100k – 200k | 36 | 11.9 |
| >200k | 50 | 16.6 |

The age of the respondents that were considered was 18 years and above, since our target audience were Facebook users who have liked the page of at least one of their favorite clothing brands. The demographic profile in table 1 shows that 143 respondents were male, comprising of 47% of the total respondents, and 159 respondents were female, comprising of 53% of the total respondents that were considered for the purpose of this research. The age limit of the respondents that ranged from 18 to 25 was 112 (37%), 26 to 35 was 84 (28%), 36 to 45 was 60 (20%), 46 to 55 was 26 (9%)

and lastly, more than 55 was 20 (7%). Most of the respondents who were active users of Facebook were between the ages of 18 to 35. The employment status of the respondents showed that 150 of them were employed (50%), 83 (28%) were unemployed and were mostly students, and 69 were self-employed (23%). Lastly, when considering the monthly income of the respondents, those that earned more than 50k were 140 in number (47%), those that earned between 50k and 100k were 76 (25%), those that earned between 100k and 200k were 36 (12%), and those that earned more than 200k were 50 (17%) in number.

3.2. Data Analysis

The Structural Equation Modeling (SEM) approach was followed. Initially, the measurement model of the scales was tested using the exploratory and confirmatory techniques, so as to assess reliability, dimensionality, and validity. Secondly, the structural model was evaluated by testing the hypotheses via performing the regression analysis, and the mediation analysis was done using the IBM Amos 21, and the PROCESS 3.3, respectively.

Table 2: Exploratory Factor Analysis (EFA)

| Constructs | Kaiser-Meyer-Olkin Measure of Sampling Adequacy | Bartlett's Test of Sphericity | Total Variance Explained | Items retained |
|------------|---|-------------------------------|--------------------------|----------------|
| BI | 0.853 | 793.153 | 78.72 | 4 |
| EBA | 0.746 | 497.87 | 81.38 | 3 |
| OCBE | 0.840 | 1187.73 | 67.58 | 6 |

Table 2 shows that the EFA and three factors emerged as expected. While from the BI construct, 4 out of the 6 items were retained. Moving on, for EBA, out of the 6 items, 3 were retained due to the cross loading, and in OCBE, there were a total of 10 items, but 6 were retained due to cross-loading. The extraction method used for this purpose was the Principal Component Analysis (PCA), and the Promax Rotation, with Kaiser Normalization was carried out on all the three constructs. The values of the Barley Test of Sphericity came out to be significant, with a p-value that was less than 0.05. A total of 302 respondents were included in the survey, and the values of Kaiser-Meyer-Olkin (KMO) for all the latent variables were well above the acceptable range (KMO > 0.6) (Hair, Black, Babin, & Anderson, 2014).

3.3. Measurement Model Results

Table 3: Discriminant Validity Index Summary

| Constructs | Brand Involvement | Emotional Brand Attachment | Online Customer Brand Engagement |
|----------------------------------|--------------------------|-----------------------------------|---|
| Brand Involvement | 0.847 | | |
| Emotional Brand Attachment | 0.824 | 0.848 | |
| Online Customer Brand Engagement | 0.728 | 0.848 | 0.872 |

The results presented in Table 3 suggest that all the latent variables in the research model indicate towards a discriminant validity. This is because the square root of the total variance explained is greater than the square of each pair of correlation (Fornell & Larcker, 1981), and the correlation values among them are lesser than 0.85 (Mohamad, Mohammad, Azman, & Ali, 2016). The descriptive statistics along with correlation table and collinearity diagnostics are provided in the Appendix.

Table 4: Factor Loading, Composite Reliability, and Average Variance Extracted

| Constructs | Loading | CR | AVE |
|--|----------------|-----------|------------|
| Brand Involvement (De Vries & Carlson 2014) | | 0.910 | 0.717 |
| My favorite clothing brand means a lot to me (B2) | 0.83 | | |
| I consider my favorite clothing brand a relevant part of my life (B3) | 0.83 | | |
| For me, personally, my favorite clothing brand is important (B4) | 0.84 | | |
| It is a meaningful clothing brand for me (B5) | 0.88 | | |
| Emotional brand attachment (Thomson et al. 2005) | | 0.885 | 0.720 |
| I identify with what my favorite clothing brand stands for (E2) | 0.84 | | |
| I feel a sense of belonging regarding my favorite clothing brand (E3) | 0.84 | | |
| I am highly regarded by my favorite clothing brand (E5) | 0.87 | | |
| Online customer brand engagement (Hollebeek et al. 2014) | | 0.904 | 0.761 |
| Cognitive | | | |
| When I see my favorite clothing brands social media activities, I start to think about it (C1) | 0.83 | | |
| While I am interacting with my favorite clothing brand, I think a lot about it (C2) | 0.85 | | |
| Affective | | | |
| Following my favorite clothing brands, the Facebook account makes me happy (AFF2) | 0.87 | | |
| I feel good when I am interacting with my favorite clothing brand (AFF3) | 0.91 | | |
| Activation | | | |
| Whenever I am online on Facebook, I usually look for my favorite clothing brand (AC2) | 0.90 | | |
| I generally interact with my favorite clothing brand when I log on to Facebook (AC3) | 0.85 | | |

Table 4 shows the factor loading, AVE, and CR, which show an adequate factor of convergent reliability and validity ($CR \geq 0.7$, $AVE \geq 0.5$) of the measurement model (Hair et al., 2014). In addition to this, the factor loading values of all the items measuring brand involvement, emotional brand attachment, and online customer brand engagement, are higher than 0.6. Moreover, the Confirmatory Factor Analysis (CFA) was undertaken by

using all the three latent variables with the 13 items that were included in one single multifactorial CFA model, in AMOS 21. Thus, the CFA measurement model indicates an adequate model fit: $\chi^2(59) = 172.4$; $\chi^2/df = 2.923$; GFI = .924; CFI = .963; RMSEA = .080; and SRMR = .062.

3.4. Structural Model Results

Table 5: Structural Model Results for Total and Direct Effects

| Hypothesized relationships | β | t | p | Decision |
|---|---------|-------|--------|---------------|
| H_{1a} : Brand involvement has a significant effect on the cognitive processing dimension of OCBE | .6415 | 12.96 | < 0.05 | Supported |
| H_{1b} : Brand involvement has a significant effect on the affective dimension of OCBE | .3217 | 6.55 | < 0.05 | Supported |
| H_{1c} : Brand involvement has a significant effect on the activation dimension of OCBE | .0942 | 1.528 | > 0.05 | Not Supported |
| H_{2a} : The cognitive processing dimension of OCBE has a significant effect on emotional brand attachment | .1100 | 2.201 | > 0.05 | Not Supported |
| H_{2b} : The affective dimension of OCBE has a significant effect on emotional brand attachment | .3090 | 5.396 | < 0.05 | Supported |
| H_{2c} : The activation dimension of OCBE has a significant effect on emotional brand attachment | .0724 | 1.649 | > 0.05 | Not Supported |

Table 5 depicts that (path a), which is BI, has a significant effect on the cognitive processing and affective dimensions of OCBE, and has no effect on the activation dimension. Therefore, it can be confirmed that hypotheses **H_{1a}** and **H_{1b}** are supported, while **H_{1c}** is not supported. Whereas the cognitive processing dimension of OCBE has a greater effect on BI, as compared to the affective dimension of OCBE. The results (path b) depict that the cognitive processing, and activation dimension of OCBE are not significant, but the affection dimension of OCBE has a significant effect on the dependent outcome variable, EBA. From the results, it is therefore concluded that **H_{2a}** and **H_{2c}** are not supported, and only **H_{2b}** is supported. Furthermore, the mediation analysis was conducted for the structural model, in order for the exploration of the multiple OCBE mediators, concurrently between BI and the dependent outcome variable EBA (Hayes, 2009).

Table 6: Structural Model Results for Indirect Effects

| Indirect Effect For Mediation Analysis | β | LLCI | ULCI | Decision |
|---|---------|--------|-------|---------------|
| H_{3a} : Cognitive processing dimension of OCBE significantly mediates the effect of brand involvement on emotional brand attachment | 0.706 | -0.009 | 0.150 | Not Supported |
| H_{3b} : Affective dimension of OCBE significantly mediates the effect of brand involvement on emotional brand attachment | 0.099 | 0.050 | 0.157 | Supported |
| H_{3c} : Activation dimension of OCBE significantly mediates the effect of brand involvement on emotional brand attachment | -0.006 | -0.022 | 0.003 | Not Supported |

Table 6 indicates the indirect effects of BI on EBA, with the OCBE mediators pertaining to cognitive processing, affective, and activation. The results (path c) show a significant indirect effect of BI on EBA, with the three OCBE mediators: $\beta = 0.471$; $SE = 0.046$; $95\% CI = .3789$ to $.5634$ ($p = 0.00$). Since the C.I. does not include zero, it is concluded that there is a mediating effect between BI and EBA (Hayes, 2012). It is also concluded that there (path c) is a significant direct effect of BI, on EBA: $\beta = 0.776$; ($p = 0.001$), suggesting partial mediation (Hayes, 2012). The results from Table 6 conclude that for the mediation analysis, BI is mediated through only one of the OCBE dimensions that is an affective dimension to EBA, thus supporting **H_{3b}**. The **H_{3a}** and **H_{3c}** are not supported, since both the dimensions, cognitive processing, and activation of the C.I. include a zero, therefore, there is no mediation observed in this case.

4. Discussion

This study focuses on a much comprehensive interpretation of OCBE, and is not limited to customer purchases exclusively. Certain quantitative methods were applied in this study, as suggested by various researchers who were found in the emerging literature, in order to get a grasp on the concept of engagement (Gorgus, 2016). In the context of

clothing brands, this study concludes that the affective dimension of OCBE has a significant influence on EBA. Moreover, BI has a significant effect on both the cognitive processing and affective dimensions of OCBE, especially when compared to the research findings of (Hollebeek et al., 2014; Loureiro, Gorgus, & Kaufmann, 2017), where BI happened to have a positive impact on all the three dimensions. Furthermore, greater involvement with tourism websites reveals that greater levels of all the three dimensions of CBE with BI, positively associate with all the three dimensions of OCBE. These findings are similar to the earlier studies that have been advocating that customers that are highly involved are likely to be emotionally attached and connected with their favorite focal brands as well (Bowden, 2008). These findings also resonate with studies that have been conducted on the tourism industry, where consumers who are involved, and have indulged in cognitive and affective investments, are more engaged with the brand, and can accumulate added benefits (Harrigan et al., 2018). The cognitive and emotional element of OCBE integrates experiences and the feelings of customers, without focusing on the actual purchase intention (Vivek et al., 2012). Therefore, this study concludes that brand involvement is influenced by the cognitive and affective dimensions of OCBE, and not on the behavioral dimension that refers to activation in this case. Furthermore, through the mediation analysis, it is revealed that only the affective dimension of OCBE has a significant effect on EBA. This study can help marketers to devise strategies to keep their customers engaged, by connecting with them to the brand emotionally. Additionally, the marketers can devise social media campaigns that customers can relate to themselves, and that can have a long-lasting imprint through the positive reinforcement of emotions. For example, brands can increase the interaction of engaged customers, by expressing their emotions through virtual platforms. This can be undertaken by sharing messages, pictures, and videos. Marketers can also make the content more fascinating, which would engage the customers every time they visit their Facebook page. Whether it is relationship marketing or services marketing, it is evident that OCBE can have a profound impact on the customers by engaging them emotionally, and creating a long-lasting imprint in the hearts and minds of its customers (Dwivedi, Johnson, Wilkie, & De Araujo-Gil, 2018). In this regard, marketers need to create exciting and mind-blowing content that would ultimately make the customers come back for more, and then indulge in transactional and word of mouth behavior. The concept of engagement targets potential customers, as well as repeat customers, so the marketers

can devise different strategies for these two segments of customers, in order to convert them into loyal and dedicated customers (Bowden, 2009).

5. Limitations and Recommendations

The sample size that is considered for this study could have been larger, but due to time restraints it was not possible. Moreover, this study is restricted to Karachi only, and in the next phase, it can be carried out in other cities of Pakistan as well. Other than this, a cross-sectional survey can be conducted to further validate the results, and the OCBE scale can be further validated and tested. An area for future research would be to capture the pre and post visit levels of engagement, using a longitudinal research design. In this regard, the S-D logic can be used as a theory, so as to better understand the OCBE drivers and outcomes. Additionally, more drivers and outcomes can also be studied to fully understand the engagement dimensions. Also, this research is limited to apparel brands, while other product types can also be taken into consideration. A comparative study of the hedonic and utilitarian brands can be studied as well. Also, this study can also be conducted using other social media tools like Instagram, Twitter, and Snapchat, to name a few. Furthermore, a comparative analysis of millennials' customers and elderly customers can be done.

References

- Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, 34(4), 347-356
- Ahmed, S., & Ansari, J. (2020). What leads to Employee Engagement in Pharmaceutical Sector of Pakistan? *Journal of Management and Research*, 7(1), 161–183. doi: <https://doi.org/10.29145//jmr/71/070107>
- Bashir, A., & Ali, N. A. (2016). Impact of Customer Brand Relationship through Facebook on the Level of Customer Engagement. *Pakistan Business Review*, 18(1), 159-178.
- Berry, L. L., & Parasuraman, A. (2004). *Marketing Services: Competing Through Quality*. New York, USA; Simon and Schuster.
- Bowden, J. L.-H. (2008). The process of customer engagement: A conceptual framework. *Journal of Marketing Theory and Practice*, 17(1), 63–74. doi: <https://doi.org/10.2753/mtp1069-6679170105>
- Bowden, J. L.-H. (2009). The process of customer engagement: A conceptual framework. *Journal of Marketing Theory and Practice*, 17(1), 63–74. doi: <https://doi.org/10.2753/MTP1069-6679170105>
- Bowlby, J., & Ainsworth, M. (2013). The origins of attachment theory. Attachment theory: Social, developmental, and clinical perspectives, 45, 759-775.
- Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, 66(1), 105–114.
- De Vries, N. J., & Carlson, J. (2014). Examining the drivers and brand performance implications of customer engagement with brands in the social media environment. *Journal of Brand Management*, 21(6), 495–515. doi: <https://doi.org/10.1057/bm.2014.18>
- Dwivedi, A., Johnson, L. W., Wilkie, D. C., & De Araujo-Gil, L. (2018). Consumer emotional brand attachment with social media brands and social media brand equity. *European Journal of Marketing*, 53(6), 1176-1204. EJM-09-2016-0511. doi: <https://doi.org/10.1108/EJM-09-2016-0511>

- Edelman, D. C. (2007). From the periphery to the core: As online strategy becomes overall strategy; marketing organizations and agencies will never be the same. *Journal of Advertising Research*, 47(2), 130–134. doi: <https://doi.org/10.2501/S0021849907070146>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- Gaur, S. S., Herjanto, H., & Makkar, M. (2014). Review of emotions research in marketing, 2002–2013. *Journal of Retailing and Consumer Services*, 21(6), 917-923.
- Gensler, S., Völckner, F., Liu-Thompkins, Y., & Wiertz, C. (2013). Managing brands in the social media environment. *Journal of Interactive Marketing*, 27(4), 242–256. doi: <https://doi.org/10.1016/j.intmar.2013.09.004>
- Gordon, M. E., McKeage, K., & Fox, M. A. (1998). Relationship marketing effectiveness: the role of involvement. *Psychology & Marketing*, 15(5), 443-459.
- Gorgus, T. M. C. (2016). *Online brand engagement: an investigation on antecedents and outcomes within the social media environment* (Masters dissertation). Instituto Universitario de Lisboa, Portugal.
- Gummerus, J., Liljander, V., Weman, E., & Pihlström, M. (2012). Customer engagement in a Facebook brand community. *Management Research Review*, 35 (9),857-877. doi: <https://doi.org/10.1108/01409171211256578>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis: Pearson new international edition*. Essex, England: Pearson Education Limited.
- Harrigan, P., Evers, U., Miles, M. P., & Daly, T. (2018). Customer engagement and the relationship between involvement, engagement, self-brand connection and brand usage intent. *Journal of Business Research*, 88(November), 388–396. doi: <https://doi.org/10.1016/j.jbusres.2017.11.046>

- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical Mediation Analysis in the New Millennium. *Communication Monographs*, 76(4), 408–420. doi: <https://doi.org/10.1080/03637750903310360>
- Hayes, A. F. (2012). Process: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Higgins, T. & Scholer, A. (2009). Engaging the Consumer: The Science and Art of the Value Creation Process. *Journal of Consumer Psychology*, 19(2), 100–114.
- Holbrook, M. B. (1995). *Consumer Research: Introspective Essays on the Study of Consumption*, London, UK: Sage
- Hollebeek, L. (2011). Exploring customer brand engagement: Definition and themes. *Journal of Strategic Marketing*, 19(7), 555–573. doi: <https://doi.org/10.1080/0965254X.2011.599493>
- Hollebeek, L. D., Glynn, M. S., & Brodie, R. J. (2014). Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of Interactive Marketing*, 28(2), 149–165. <https://doi.org/10.1016/j.intmar.2013.12.002>
- Kitayama, S., & Markus, H. R. Kurokawa, (2000). Culture, emotion, and well-being: Good feelings in Japan and the United States. *Cognition and Emotion*, 14(1), 93-124.
- Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T., & Tillmanns, S. (2010). Undervalued or overvalued customers: Capturing total customer engagement value. *Journal of Service Research*, 13(3), 297–310. doi: <https://doi.org/10.1177/1094670510375602>
- Lichtenberg, J. D. (2001). Motivational systems and model scenes with special references to bodily experience. *Psychoanalytic Inquiry*, 21(3), 430-447.
- Levy, S., & Hino, H. (2016). Emotional brand attachment: A factor in customer-bank relationships. *International Journal of Bank Marketing*, 34(2), 136–150. doi: <https://doi.org/10.1108/IJBM-06-2015-0092>

- Loureiro, S. M. C., Gorgus, T., & Kaufmann, H. R. (2017). Antecedents and outcomes of online brand engagement: The role of brand love on enhancing electronic-word-of-mouth. *Online Information Review*, 41(7), 985–1005. doi: <https://doi.org/10.1108/OIR-08-2016-0236>
- Malär, L., Krohmer, H., Hoyer, W. D., & Nyffenegger, B. (2011). Emotional Brand Attachment and Brand Personality: The Relative Importance of the Actual and the Ideal Self. *Journal of Marketing*, 75(4), 35–52. doi: <https://doi.org/10.1509/jmkg.75.4.35>
- Malhotra, N. K., & Dash, S. (2010). *Marketing research: An applied orientation*. New Delhi, India: Pearson Education
- Mohamad, M., Mohammad, M., Azman, N., & Ali, M. (2016). The impact of life satisfaction on substance abuse: Delinquency as a mediator. *International Journal of Adolescence and Youth*, 3843(March 2017), 1–11. doi: <https://doi.org/10.1080/02673843.2016.1267021>
- Mollen, A., & Wilson, H. (2010). Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of Business Research*, 63(9–10), 919–925. doi: <https://doi.org/10.1016/j.jbusres.2009.05.014>
- Morgan, P. (2010). Towards a developmental theory of place attachment. *Journal of Environmental Psychology*, 30(1), 11–22. doi: <https://doi.org/10.1016/j.jenvp.2009.07.001>
- Pansari, A., & Kumar, V. (2017). Customer engagement: The construct, antecedents, and consequences. *Journal of the Academy of Marketing Science*, 45(3), 294–311. doi: <https://doi.org/10.1007/s11747-016-0485-6>
- Park, C. W., Macinnis, D. J., & Priester, J. (2006). *Beyond Attitudes: Attachment and Consumer Behavior*, 12(2), 3–35.
- Phillips, D. M., & Baumgartner, H. (2002). The role of consumption emotions in the satisfaction response. *Journal of Consumer psychology*, 12(3), 243–252.
- Rizley, R. L. (2014). *2014-2016 research priorities*. Cambridge MA: Marketing Science Institute. Retrieved from <http://www.msi.org/research/2014-2016-research-priorities/>

- Rust, R. T., Ambler, T., Carpenter, G. S., Kumar, V., & Srivastava, R. K. (2004). Measuring Marketing Productivity: Current Knowledge and Future Directions. *Journal of Marketing*, 68(4), 76–89. doi: <https://doi.org/10.1509/jmkg.68.4.76.42721>
- Schultz, S., & Baker, S. M. (2004). An Integrative Review of Material Possession Attachment. *Academy of Marketing Science Review*, 2004(1), 1–35.
- Thomson, M., Macinnis, D. J., & Park, C. W. (2005). Thomason et al. (2005). *Journal of Consumer Psychology*, 15(1), 77–91.
- Toor, A., Husnain, M., & Hussain, T. (2017). *The Impact of Social Network Marketing on Consumer Purchase Intention in Pakistan: Consumer Engagement as a Mediator*, 10 (1), 167-199.
- Van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer engagement behavior: Theoretical foundations and research directions. *Journal of Service Research*, 13(3), 253–266. doi: <https://doi.org/10.1177/1094670510375599>
- Van Lange, P. A. M., & Balliet, D. (2015). Interdependence theory. *APA Handbook of Personality and Social Psychology*, 3, 65–92.
- Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). Customer Experience Creation: Determinants, Dynamics and Management Strategies. *Journal of Retailing*, 85(1), 31–41. doi: <https://doi.org/10.1016/j.jretai.2008.11.001>
- Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of Marketing Theory and Practice*, 20(2), 122–146. doi: <https://doi.org/10.2753/mtp1069-6679200201>
- Wallace, E., Buil, I., Chernatony, L. De, & Buil, I. (2014). *Consumer engagement with self-expressive brands: Brand love and WOM outcomes*. *Journal of Product and Brand Management*, 23(1), 33–42 doi: <https://doi.org/10.1108/JPBm-06-2013-0326>
- Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of consumer research*, 12(3), 341-352.

*Appendix***Table-A: Descriptive Statistics and Reliability Analysis**

| | Mean | Std. Dev | Skewness | Kurtosis | Cronbach's Alpha |
|----------------------------------|--------|----------|----------|----------|------------------|
| Brand Involvement | 2.9073 | 1.08929 | .099 | -.770 | .910 |
| Emotional Brand Attachment | 2.7252 | 1.14082 | .057 | -1.026 | .886 |
| Online Customer Brand Engagement | 2.7715 | 1.01949 | -.139 | -.672 | .903 |

Table-B: Correlation Results

| Constructs | BI | EBA | OCBE |
|----------------------------------|----------|----------|----------|
| Brand Involvement | 1 | | |
| Emotional Brand Attachment | .741 | 1 | |
| Online Customer Brand Engagement | .617 | .719 | 1 |

Table-C: Tolerance

| Constructs | Tolerance |
|----------------------------------|-----------|
| Brand Involvement | .436 |
| Emotional Brand Attachment | .467 |
| Online Customer Brand Engagement | .340 |

A Comparative Study of Banking Sectors of Pakistan and India: An Application of Data Envelopment Analysis

Aamir Shahzad* , Tahir Mahmood and Mehwish Shahzad*****

Abstract

The main aim of this paper is to investigate the efficiency, change in productivity, and the sources of efficiency in the commercial banking sector of Pakistan and India. For this purpose, the performance analysis has been referred to, so as to verify the core-essence of the technical gains in efficiency, the role of managerial practices adopted, and the utilization of resources by the banking sectors in these two jointly bordered countries of South Asia. The time span that has been referred to for this study, spans from 2013 to 2017. Therefore, the Data Envelopment Analysis (DEA), equipped with its two basic models, which serve the input orientation and Malmquist Productivity Index (MPI) have been used, in order to submit the findings of this study. As compared to the situation in Pakistan, during the time span that has been taken into consideration for the purpose of this study, the Indian banking sector has been able to maintain higher scores, in the three levels of efficiency measures that have been observed. Moreover, the returns to scale analysis suggests that the banks operate at Constant Returns to Scale (CRS), or Increasing Return to Scale (IRS), thus making a positive contribution towards the average efficiency gains. Whereas, the banks that have been functioning at Decreasing Returns to Scale (DRS) happen to cause a decline in the efficiency measures. As far as productivity is concerned, both the countries have shown a positive improvement in the Total Factor Productivity (TFP), over the years. In a gist, the three levels of efficiency, and their sources of inefficiencies, make up the extract of the study. These findings should ideally be focused upon by the managers, practitioners, and policymakers, particularly while designing their operational strategies.

Keywords: Data envelopment analysis, malmquist productivity index, constant return to scale, variable return to scale, decreasing return to scale

JEL Classification: G21, M10, M11.

* M.Phil Scholar, Department of Economics and Business Management Sciences, UVAS, Lahore, Pakistan.

** Associate Professor, Department of Economics and Business Management Sciences, UVAS, Lahore, Pakistan.

*** Lecturer, Department of Economics and Business Administration, UE, Lahore, Pakistan.

1. Introduction

In developing economies, the financial system is a major determinant of economic growth. Having noted this, it is also common knowledge that the performance of any economy exceedingly depends upon the performance of the financial sector. This is primarily because the association among the economic constructs has been empirically investigated by the researchers, due to a deep rooted interest in the discipline (Baily & Elliott, 2013; Khalifa Al-Yousif, 2002; Levine, 1999). In this regard, due to a lack of established financial capital, and in an effort to save markets in developing countries (Menyah, Nazlioglu, & Wolde-Rufael, 2014), the banking sector serves as a trusted and effective financial intermediary (He, Kelly, & Manela, 2017). Through the transformation of savings into investments, financial institutions execute the monetary and financial governance system, mainly by relying on the efficient allocation of resources (Ayadi, Arbak, Naceur, & De Groen, 2015; Masoud & Hardaker, 2012). It is also commonly believed that the banking sector diagnoses the financial illnesses of the developing nations. Therefore, in this regard, the banking sector serves as an active partner that participates to ensure the financial soundness of developing countries, all across the world. Among the branches of the banking sector, the commercial banks are involved in accepting deposits, advancing loans, providing general utility services, making investments, promoting capital formulation, facilitating foreign assistance, and creating and distributing the securities with the ultimate purpose of earning profit. Therefore, a well-established operation of commercial banks tends to excel in a first-order impact, not only in terms of economic growth, but also in the context of accelerating financial development in general.

For a long time, the efficient performance of the banking industry has been a critical research stream that draws a considerable amount of attention from both, academicians, as well as policymakers (Bhattacharyya & Pal, 2013; Dong, Hamilton, & Tippett, 2014; Fernandes, Stasinakis, & Bardarova, 2018). In the previous literature, a survey by (Berger & DeYoung, 1997) showed that the discipline of banking efficiency was mostly concerned with developed countries such as the US and UK. Then, this trend eventually shifted towards the European settings as well (Casu & Girardone, 2010; Fang, Hasan, & Marton, 2011). In more recent time, however, its popularity has infiltrated into the Asian territory as well. Thus, the researchers of this particular field of study have been explicitly focused on measuring the efficiency of the banking sector, mostly through the Data Envelopment Analysis (DEA) (Beck, Demirgüç-Kunt, &

Merrouche, 2010; Das & Drine, 2011b; Sathye, 2005; Seelanatha, 2010; Thagunna & Poudel, 2012).

It is noteworthy that the Pakistani and Indian banking sectors are reluctant to follow the footprints of the World's top, developed economies. In this regard, the evidence shows that the impressive performance of developed economies has gradually helped to move the industry towards a bright future. From the era of independence till now, there are several commonalities that exist in the changes that have taken place in the banking structures of both the economies (Ataullah*, Cockerill, & Le, 2004). Hence, an efficiency study of both the countries is a viable decision, and also, the fear of country heterogeneity is less likely to be affected by the analysis. Therefore, the present study is an attempt to estimate the efficiency of the private commercial banks of Pakistan and India, and making a comparison of the two thereon. The existing inquiry will add quantitative evidence to the existing cross-cultural banking literature.

For the purpose of this study, we have used two classic models of the Data Envelopment Analysis. This has been undertaken primarily in order to estimate the scores of efficiency through separate country and joint country frontier analysis. Other than that, the detection of the main sources of gain and reduction in efficiency, along with the decomposed components of variation in the efficiency estimates are also measures that have been taken into consideration. The research manuscript also analyzes how major returns of efficiency estimates respond to the efficiency of the private commercial banks of Pakistan and India.

Most of the previous cross-country studies have used a common frontier for all the countries that have been included in their researches, respectively. This, however, only allows for the access to the results that pertain to the relative comparison of all the banks, of all the countries, at one point in time. But a bank that has performed efficiently in its own country, may not perform in the same manner, in the cross-country comparative analysis (Sathye, 2005). On the other hand, a Single Context Analysis facilitates the underperformed domestic banks, so as to make some suitable adjustments in their policies for the improvement of their efficiency centric results. However, this measure is not robust enough for the banks, in order for them to compete in relative countries, in the international market. In the light of this scenario, the current study aims to fill in the gaps, and demonstrate cross-country evidence that enhances the scope, and helps the countries to rectify the policies at an international level, in order to create a sound and healthy banking system.

From the lens of theoretical implications, this study contributes towards a novel thought and idea, in the context of determining the relationship of efficiency, changes in productivity, as well as identifying a source of efficiency, by making use of the Data Envelope Analysis. On the theoretical side, this study also elaborates upon the unique relationship of the constant returns to scale, increasing returns to scale, decreasing returns to scale, and the total factor productivity, in the commercial banking sector of Pakistan and India. In parallel with the theoretical implications, this study is likely to be suitable and effective on the practical side as well. The three levels of efficiency, and their sources of inefficiencies, make up the extract of the study. These extracts should ideally be focused upon by the managers, practitioners, and policymakers, while designing their operational strategies.

The rest of the research is carried out as follows. The next section will provide a concise review of the literature. The fourth section confirms the methodology that is to be utilized, in-line with the core objectives of the study. The findings are presented in section fifth, and the conclusion & limitations are have been presented in the sixth section. Finally, the references used in the investigation have been listed in the last section of the paper.

2. Literature Review

This section will highlight the extant literature that has been written on the discipline banking efficiency, in a single and cross- country context. This is because DEA has gained exponential growth over time, and also possesses the intrinsic potential to provide unique findings, while engaging in different settings. (Berger & Humphrey, 1997) conducted a comprehensive survey of 130 international financial studies that had been undertaken in 26 countries. The survey results reflected that approximately 75% of the banking literature belongs to developed countries (USA in particular). The study also pointed out that a total of 69 studies were performed through the non-parametric method, while the rest of them were looked at with the parametric method. Moreover, a survey of the research also explained that all these empirical studies have the core purpose of estimating the performance of the banking territories, in different economic settings. At the country level, certain banking efficiency measures have been used, so as to contribute to the existing literature at different spans of times. These empirical evidences have been able to support government agencies, policymakers, and economists, in order for them to develop the strategies that will extensively move the sector on the

road of consistent development, especially through managerial performance (Berger & Humphrey, 1997). A recent survey conducted by (Emrouznejad & Yang, 2018) highlights the extended popularity of DEA. The study reported that from the year 1978 to 2016, there have been 10,300 articles published, employing DEA as a tool for measuring efficiency.

Moreover, (Fernandes et al., 2018) also measured the efficiency, along with the productivity, through the Malmquist Productivity Index MPI of 64 banks, in Five Periphery European Economies for a period spanning from 2007 to 2014. The results exhibited an increase in the banking efficiency of the domestic banking industry of Periphery European Economies, over time. With a productivity growth score of 2.5%, Portuguese banks are ranked higher among the banking sector of Spain, Italy, Greece, and Ireland.

Other than that, (Sathye, 2005) also incorporated an investigation, with the core objective of measuring technical efficiency, and its decomposed components. The study targeted the commercial banks of the developing and developed countries of Asia Pacific. It also included 458 banks, from 18 countries of the Asia Pacific. The results were analyzed by finding the efficiency scores of each country separately, and then these were examined under a regional setting. The results revealed that out of the selected countries, ten countries in the regional frontier had showed lower scores of TE and PTE, as compared to the mean value of the region. On the other hand, six countries scored a lower SE than the average value.

(Banya & Biekpe, 2018) also extended the banking literature by measuring the banking efficiency of African countries. The research was aimed towards analyzing the banking efficiency of ten African countries, for a period spanning from 2008 to 2012. The study identified two major sources of inefficiency. The first one of these was the poor utilization of inputs, and the second one was the inability to carry out the operations, so as to realize the most productive scale size.

The banking efficiency of six GCC economies of the gulf block were also investigated by (Aghimien, Kamarudin, Hamid, & Noordin, 2016). The analysis for this study was undertaken by calculating the efficiency of 43 banks, from the years spanning from 2007 to 2011. In addition to this, the composite components of efficiency were treated as potential factors, primarily because they exert a significant influence on the GCC banking network. The frontiers were also separately constructed for each year, because the banks that had proven as efficient in one year, may be

potentially proven as inefficient for another year, due to technical, technological or environmental reasons. Overall, the results reflected an increasing trend of banking efficiency in the GCC countries. Concisely, the results suggested that the resources were not fully utilized, mainly due to the managerial inefficiencies experienced in the GCC countries. Regarding the returns to scale analysis, the total sample was further divided into two categories. It was found that out of the 22 largest banks, most were operating at DRS. Whereas, 42.57% of the banks, out of the total count of the smallest banks were operating at IRS. Although the banks exhibited an increasing trend of efficiency, yet, the managerial inefficiency could potentially be reduced through the full utilization of the resources.

(Kamarudin, Sufian, Loong, & Anwar, 2017) also examined, and compared the three basic levels of efficiency of local and foreign Islamic banks, of the Southeast Asian Economies. In order to gauge the required goal, data from 2006 to 2014 was obtained from the Bankscope database, against 29 Islamic banks. The banks of Brunei, Indonesia, and Malaysia were shortlisted for the investigation. The Data Envelopment Analysis DEA was the core technique that was selected, and supported by the input orientation. The study explored that foreign banks tend to be less efficient, due to their smaller size, and therefore, the domestic Islamic banks gained the home advantage, as described in the home field advantage theory.

A study conducted by (Ataullah* et al., 2004) also analyzed the banking efficiency of Pakistan and India. A period spanning from 1988 to 1998 was targeted, in order to analyze the scores of the three related components of efficiency. The best relative efficiency comparison approach of DEA was utilized and executed, by employing both the historical models of CCR and BCC. The results showed that both countries had lower OTE scores, which contributed as the most significant reason behind the low scale efficiency. The mean overall technical efficiency score of Indian commercial banks had come out to be higher.

(Stewart, Matousek, & Nguyen, 2016) also squeezed the efficiency of the Vietnamese Commercial Banks. A sample of 48 banks, ranging from a time span from 1999 to 2009, was taken into account. The study categorized the sampled banks into state-owned (SOCBs) & non-state-owned (NSOCBs) commercial banks. The results concluded that large banks that had higher profits over the asset ratio tend to be comparatively more efficient than the smaller ones. On the other hand, as per the ownership structure, SOCBs are less efficient than NSOCBs.

(Sakouvogui, 2020) also elaborated on the SFA and DEA analysis, by using the data from 650 banks, in the United States of America. Moreover, the cluster approach was considered for this initiative. The study results revealed that the clustering approach has played a vital role in the rankings of US banks. In addition to this, the values of SFA, as well as the DEA efficiency analysis, based on the homogeneous banks were considerably greater than those of the heterogeneous banks.

(Dutta, Jain, & Gupta, 2020) highlighted that efficiency analysis of the banking companies, in the context of the Indian banking sector, by making use of the panel data spanning from 2014 to 2018. In this context, the executives did not think about ROE as a critical marker of effectiveness, and should have ideally preferred to focus on the perspectives, for instance, the ROA and pay assortment. In the course of Malmquist examination, the executives have the capability to separate the profitability change, into specialized and effective shifts for additional examination.

The examination estimated the degree of provincial and local area banks' (RCBs) effectiveness in Ghana. This was done in order to learn their local inconsistencies, in the degrees of proficiency, utilizing (CCR) and (BCC) models, by making use of the information collected from 127 banks (2014 to 2017). We found efficient and scales collapse irregularities, across the nearby local banks in Ghana, during the efficiency analysis. In the context of country development, improving money, and incorporating custom fitted strategies for resource choice, ought to be sanctioned in order to shield the banks from the hazards that are related to choosing an excessive number of terrible resources. Additionally, the work of bleeding edge advancements, and intra-territorial data sharing would also ensure the banks against local explicit dangers, and in this manner ultimately improve effectiveness as well (Say et al., 2020).

3. Research Methodology

There have been certain techniques that have been employed in the reformulation of the (Farrell, 1957) measures that pertain to the technical efficiency, by using a single input and single output approach. The primary reason for the selection of the DEA, as a measure of efficiency, is the replacement of the traditional method of performance evaluation of the financial data. This method is commonly known as the 'Ratio Analysis'. Also, DEA is a non-parametric approach that is based on various mathematical models. In this regard, the empirical evidences have proved that DEA is an easy and flexible approach towards finding different levels

of efficiency, at the same point. This is mainly because the approach utilizes and envelops the data, and addresses the random noises that are put forth by the production technology, via different applications (Porcelli, 2009). Thus, DEA has been deemed to be the most effective technique for modeling the operational processes, in order to effectively access the large-scale frontier analysis performance level (Seiford & Thrall, 1990).

In their time, (Sherman & Gold, 1985) were the pioneers who stepped up to apply the DEA technique to the banking sector. When applying this technique to the sampled Decision Making Unit DMUs (in our case, the banks), the DEA tends to assign a score of unity to the efficient DMU(s). The score of the inefficient DMUs thus lies between 0 and 1, on the efficient frontier or the best practices frontier. The efficient DMU(s) on the efficient frontier have a relative comparison with the other DMU(s) in the sample, and are called the best practice performers, the reference units or the peer units of the sample (Das & Drine, 2011a; Fethi & Pasiouras, 2010; Kumar & Gulati, 2008; Pasiouras, 2008).

Among a wide variety of the DEA models, the CCR and BBC models are also the most repeatedly used for the efficiency estimation of banks, as found in the extant literature. The classical CCR model follows the assumptions that are similar with the Constant Return to Scale CRS (Charnes, Cooper, & Rhodes, 1978). This is then further extended by (Banker, Charnes, & Cooper, 1984) into the BBC model, followed by the assumption made in the Variable Return to Scale (VRS). Any increase or decrease in the efficiency scores depend upon the changes experienced in the level of inputs and outputs. In other words, the changes experienced in the relationship of the inputs and outputs, represent and reaffirm the concept of returns to scale (W. W. Cooper, Seiford, & Tone, 2000). Furthermore, the CCR model indicates that an increase in input(s) causes a proportionate increase in the output(s). While, the VRS model assumes that there is an increase or decrease in the outputs(s), due to an increase in the input(s) (Lampe & Hilgers, 2015). It is noteworthy that the objective of the CCR model is to find out the Overall Technical Efficiency (OTE), while the VRS is commonly known to dig out the Pure Technical Efficiency (PTE), and the Scale Efficiency (SE) (Majeed & Zanib, 2016). Here, it is essential to know that these models follow the input and output-oriented approach for the estimation of technical efficiency. The input-oriented model is used to retain the same level of output by minimizing the inputs, while the output-oriented model maximizes the output, by utilizing the existing level of inputs (Rahman, Lambkin, & Hussain, 2016).

In this regard, assuming if s outputs are produced by r inputs, for n DMUs (in our case, the banks), then the efficiency ratio can be measured by the following equation;

$$E_l = \frac{\sum_{i=1}^s u_i y_{il}}{\sum_{j=1}^r v_j x_{jl}} \quad (i)$$

Where " E_l " is the relative efficiency estimated by the DMUs, by employing r different inputs, to produce s different outputs. y_i is the i th output produced by the DMU, x_j is the j th input employed by the DMU, u_i is $s \times 1$ vector of the output weights, and finally, v_j is the $r \times 1$ vector of the input weights.

The above mentioned equation (i) is nonlinear in nature, and therefore, we had to renovate it, in order for it to be converted into a linear equation. For this reason, it was revamped as a fractional programming function, and is able to be changed afterwards into linear programming, as done by (Charnes et al., 1978). Therefore, the modified equation that was had was;

$$\max E_l = \sum_{i=1}^s u_i y_{il} \quad (ii)$$

Subject to

$$\sum_{j=1}^r v_j x_{jl} = 1 \quad (iii)$$

$$\sum_{i=1}^s u_i y_{im} - \sum_{j=1}^r v_j x_{jm} \leq 0, m = 1, \dots, n.$$

The efficiency computed from the CRS model in equation (ii) is an aggregate measure of technical efficiency of the DMUs (in our case, the banks). In this regard, the obtained results from equation (iii) group the banks into a category of efficient and inefficient banks.

However, the application of the CCR model requires the DMUs to be operated and treated at the optimal level. Due to the imperfect competition in the market, and other constraints in the banking industry, the results of the technical efficiency, followed by the CRS assumption are more likely to be caught up with the scale efficiency. In order to remove this delinquency, the extended model formulated by (Banker et al., 1984), containing the assumption of Variable Returns to Scale VRS will be referred to. Moreover, the extended BCC model estimates the Technical Efficiency,

by avoiding the Scale Efficiency effects. The formation of the BCC model, by taking into account the convexity constraint c can therefore be written as;

$$\text{maximise } E_l = \sum_{i=1}^s u_i y_{il} - c_l \quad (\text{iv})$$

Subject to;

$$\sum_{j=1}^r v_j x_{jl} = 1$$

$$\sum_{i=1}^s u_i y_{im} - \sum_{j=1}^r v_j x_{jm} - c_l < 0, m = 1, \dots, N.$$

The present study has utilized the CCR and BCC models, containing the CRS and VRS assumptions of scale, by following an input orientation. This is so because it is assumed that the inputs can easily control by the bank managers (Fethi & Pasiouras, 2010). Whereas, a change in the total factor productivity of the private banks has been captured through the DEA, Malmquist Productivity Index (MPI), which is specially designed to evaluate the variations in the efficiency, with respect to time. This concept was originally coined in by Prof. Sten Malmquist in 1953. Later on, it was contemplated and incorporated into a non-parametric framework, by several authors (Caves, Christensen, & Diewert, 1982; Färe, Grosskopf, Lindgren, & Roos, 1994; Färe, Grosskopf, Lovell, & Pasurka, 1989; Thrall, 2000). It is noteworthy that this model is based upon a comparative production function, and completely resembles the “comparative static” analysis.

This research has been carried out by having the total utility to deal with the secondary data that has been obtained for the purpose of this study. The financial data has been acquired to gain access to the efficiency and productivity of private banks. The time span encompasses a period from 2013 to 2017, thus avoiding any abnormal changes that might have occurred in the overall structure of the private banks of Pakistan and India. Moreover, the data has been thoroughly been scrutinized, in order to avoid any possible inconsistencies, reporting errors and double counting. The data that has been collected, has then been converted into a dollar value, in order to make an analysis that is premium, as well as uniform in nature. The DEAP 2.1 software was then used at three levels of efficiency. In this regard, TE has been taken to be the firm’s realization to yield the maximum output, by consuming the available set of inputs (Banya & Biekpe, 2018).

The PTE has been considered to be a measure that confirms the level of inefficiency, due to the underperformance of the managerial functions (Ataullah* et al., 2004). The SE is a variable that is known to reflect where the firm lies in the most productive scale size, for the given period of analysis (Kounetas & Tsekouras, 2007). Also, the value of TE is computed by considering the multiple impact of PTE and SE.

3.1. Malmquist Productivity Index MPI

The DEA-based MPI measures the productivity tend to change, or on the other hand, there are changes experienced in the Total Factor Productivity (TFP), of the banking sector. The value of TFP has experienced changes, and any of its decomposed components, particularly in this empirical setting, has provided information regarding the sources of change in productivity. It is understood that researchers and the practitioners can extract valuable information from the MPI scores. Any value of the MPI score that is greater than one indicates that there is an improvement in the TFP, while a value less than one refers to a decline in the efficiency growth (Coelli, 1998; Fernandes et al., 2018). The rise in the overall efficiency is the result of pure technical efficiency or scale efficiency. Whereas, the rise in technical efficiency shifts the productivity movement in an upward direction. Any value associated with the change in total factor productivity, and its associated components that have been greater than one, indicates an enhancement in the productivity movement. In this regard, the results of the MPI have been derived from the software package DEAP 2.1 of (Coelli, 1996).

3.2. Data Source And Selection Criteria

When referring to the sources of data and selection criteria, for this particular study, the data has been gathered from the annual financial statements of each bank. These statements have been made available, in order to maintain the transparency of accounts, of the banking company. In this regard, the main justified conditions that are adhered to, in order to gather the panel data, are mentioned below:

1. The bank should be a private commercial bank.
2. The selected bank should be a fully operating bank.
3. The data for all the variables included should be available.
4. The financial statement should be available, and published internationally.

5. The data corresponding to the entire selected period of all the banks should be available.

As per the aforementioned criteria, out the twenty banks taken into consideration, nineteen of the private commercial banks from Pakistan, and out of twenty-one, nineteen private commercial banks from India were able to fulfill the desired criteria. The reason for leaving out NIB Bank Limited, from Pakistan, was due to its merger with MCB in the year 2017. In the case of India, Bandhan Bank, and IDFC Bank did not make it to the selection criteria, as they were established in 2015. It means that more than 90% of the private commercial banks were taken into account for the analysis

3.3. Inputs And Outputs Of The Study

While dealing with DEA, the choice of the most desired inputs and outputs is a contentious issue. In order to address this issue, the selection purpose production approach, and the intermediation approach are the most commonly used approaches, as observed in the banking literature. Under the production approach, banks are considered as producers of loans and depositors of account services. This is in contrast with the intermediation approach, which considers banks to serve as financial intermediaries between the savers and investors (Davutyan & Yildirim, 2017; Fujii, Managi, & Matousek, 2014; Wanke, Barros, & Emrouznejad, 2016).

The current study is following the intermediation approach, primarily because it was argued, and justified that it is the most suitable approach for analyzing the bank level efficiency. Whereas, the branch level efficiency is well measured through the production approach as well (Berger & Humphrey, 1997). Under the intermediation approach, research is typically carried on by taking into account the total deposits (deposit and other accounts), and the total capital as inputs, that are then utilized for the production of investments, and making loans & advances (advances net of provision) as the outputs.

It is noteworthy here that the deposits are taken to be the total deposits that come forth from the corporate and private customers. This is considered to be a measure that has an authenticated input for efficiency, as evident in the literature (Banya & Biekpe, 2018; Stewart et al., 2016). Moreover, the total capital includes inputs such as the ordinary share capital, reserves, un-appropriated profit or loss, and other inputs that are

needed to create wealth. Moreover, it has a reputation of authenticity in the literature as well (Fernandes et al., 2018; Sathye, 2015). Moving forward, investment is the sum of all securities, along with equity, and other investments. It is considered to be a highly sophisticated output, that is to be used for measuring efficiency, as expressed in the extant literature (Kamarudin et al., 2017; Sufian & Habibullah, 2012). In addition to this, in this regard, loans and advances include the loans to the other banks and customers (Sathye, 2015; Sufian & Akbar Noor Mohamad Noor, 2009).

The selection of these inputs and outputs has been influenced by extending the literature review on the DEA application on the banking industry, and as per the availability of the data. The number of inputs and outputs to be used in the study are in accordance with the well-accepted rule of thumb as suggested by (W. Cooper, Seiford, Tone, & Zhu, 2007), who claim that the number of DMUs must be greater than three times of the sum of the inputs and outputs. Therefore, this study fulfills the required criteria to do so. The statistics of the included inputs and outputs are tabulated below;

4. Results and Discussion

When referring to the results of the study, and the discussion around it, Table 1 presents the descriptive statistics analysis of Pakistani and Indian banks. In the descriptive analysis, the mean, median and standard deviation values have been highlighted. The results reveal that the inputs values, in the shape of the total deposits and total equity, for Indian banks are bigger than those of the Pakistani banks. The results also describe that the outputs of Indian banks is also superior to that of Pakistani banks.

Table 1: Descriptive statistics of DEA inputs & outputs (in US \$)

| | Pakistan | | | India | | |
|--------------------|----------|----------|-----------|-----------|----------|-----------|
| | Mean | Median | Std. Dev. | Mean | Median | Std. Dev. |
| Inputs | | | | | | |
| Total deposits | 3128.811 | 2287.632 | 2994.928 | 14478.200 | 7638.915 | 19775.200 |
| Total equity | 295.903 | 167.147 | 307.111 | 2182.868 | 726.337 | 3498.183 |
| Outputs | | | | | | |
| Total investment | 1935.802 | 1109.756 | 2163.943 | 5987.725 | 2126.630 | 9730.655 |
| Loans and advances | 1476.454 | 1045.607 | 1252.223 | 12746.370 | 5654.091 | 18779.470 |

4.1. Efficiency Analysis

In the separate country analysis, the efficiency scores of the banking sector of each country that has been considered for this study, have been calculated separately. This permits the researchers to find out the most efficiently performing bank, along with the overall performance of the banking sector in its own trajectory. On the other hand, in the joint country analysis, all the sampled banks of both the countries are combined under a single umbrella. This experiment permits the access to a more efficient banking sector in the case of Pakistan and India.

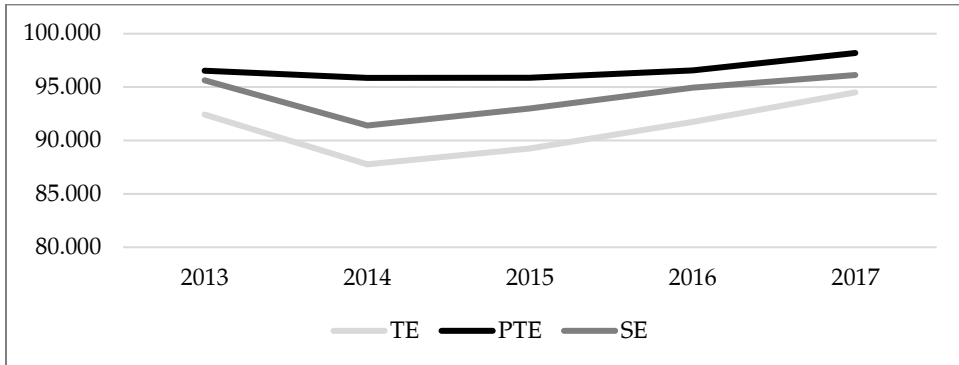
Moving on, Table 2 presents the average year-wise efficiency scores of Pakistani banks. The results also report that the three efficiency levels gradually increase after the year 2014. In accordance to this, the TE ranges from 63% to 100%. The average technical scores of the nineteen private banks, of the Pakistani banking industry, is about 91.1%. Thus, there is still an inefficiency of approximately 8.9% that needs to be addressed and improved accordingly. Annexure-A presents the bank-wise results of the sampled banks. As observed, Samba Bank and Summit Bank have been considered to show efficiency throughout the years of the analysis.

Table 2: Separate country analysis of Pakistan. A Year-wise efficiency summary (in %)

| Year | TE | PTE | SE | T-INE | PT-INE | S-INE | No. / % of Efficient Banks |
|----------------|---------------|---------------|---------------|--------------|--------------|--------------|----------------------------|
| 2013 | 92.432 | 96.547 | 95.632 | 7.568 | 3.453 | 4.368 | 6 (31%) |
| 2014 | 87.768 | 95.863 | 91.402 | 12.232 | 4.137 | 8.598 | 5 |
| 2015 | 89.247 | 95.884 | 93.013 | 10.753 | 4.116 | 6.987 | 5 |
| 2016 | 91.747 | 96.558 | 94.957 | 8.253 | 3.442 | 5.043 | 5 |
| 2017 | 94.505 | 98.195 | 96.130 | 5.495 | 1.805 | 3.870 | 10 |
| Average | 91.140 | 96.609 | 94.227 | 8.860 | 3.391 | 5.773 | |

Source: Author's own estimates

Note: TE is the Technical efficiency, PTE is the Pure technical efficiency, SE is the Scale efficiency, T-INE is the Technical inefficiency, PT-INE is the Pure technical inefficiency, and S-INE is the Scale inefficiency.

Figure 1: Efficiency Trend of Pakistani Private Banks

The overall analysis of Pakistani banks indicates that the major source of technical inefficiency is scale inefficiency. In that context, the average score obtained for SE, for the five years of analysis that have been taken into consideration, is 94.2%. This primarily means that the divergence from the most productive scale size is 5.8%, which is more than the average inefficiency that has been recorded ($100-96.6=3.4\%$). It also implies that on average, nineteen banks could produce the same output by using 3.4% lesser resources, than they consume in actuality. The year 2017 was the best year for Pakistani banks, mainly because it recorded the maximum number of efficient banks i.e. 10. Moreover, there were minimum scores of scale inefficiency i.e. 3.87%, and maximum scores of TE, PTE, and SE, as well.

As far as the Indian banking sector is concerned, it performed significantly better than Pakistani banks. The results have been mentioned in Table 3. On an average, these banks scored 93.8% in terms of the technical grounds, and 97.4% in terms of their managerial capabilities, and 96.3% in maintaining the productive scale size. That is to say, all the three standards experienced an upward directional trend, as the year passed after 2015. The detailed results have been presented in Annexure-A1. It is evident that the ICICI bank, Tamilnad Mercantile bank, Catholic Syrian bank, and the Lakshmi Vilas Bank are the respective banks that are seen to be performing exceptionally well in all three departments of efficiency estimates from the years 2013 to 2017.

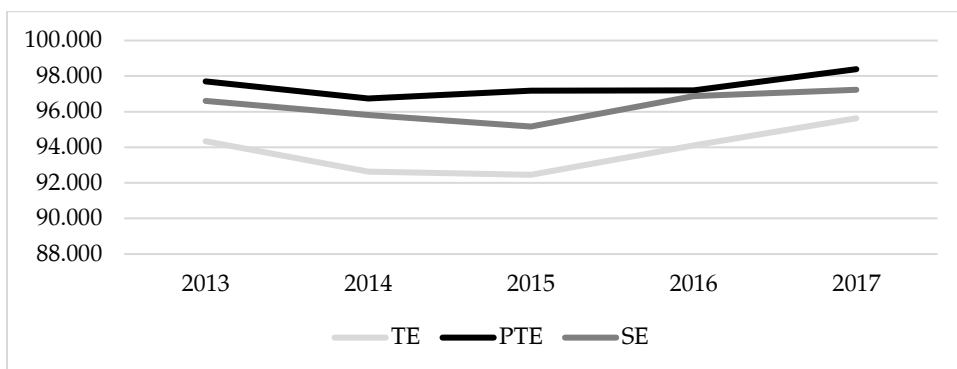
Table 3: Separate Country Analysis of India. A Year-Wise Efficiency Summary

| Year | TE | PTE | SE | T-INE | PT-INE | S-INE | No. of Efficient Banks |
|----------------|---------------|---------------|---------------|--------------|--------------|--------------|------------------------|
| 2013 | 94.342 | 97.711 | 96.601 | 5.658 | 2.289 | 3.399 | 8 |
| 2014 | 92.632 | 96.742 | 95.819 | 7.368 | 3.258 | 4.181 | 6 |
| 2015 | 92.453 | 97.189 | 95.166 | 7.547 | 2.811 | 4.834 | 6 |
| 2016 | 94.100 | 97.195 | 96.879 | 5.900 | 2.805 | 3.121 | 7 |
| 2017 | 95.632 | 98.389 | 97.232 | 4.368 | 1.611 | 2.768 | 8 |
| Average | 93.832 | 97.445 | 96.339 | 6.168 | 2.555 | 3.661 | 7.000 |

Source: Author's own estimates

Note: TE is the Technical efficiency, PTE is the Pure technical efficiency, SE is the Scale efficiency, T-INE is the Technical inefficiency, PT-INE is the Pure technical inefficiency, and S-INE is the Scale inefficiency.

Figure 2: Efficiency Trend of Indian Private Banks



As seen from the results, on an average scale, the sampled banks deviated (100-96.3=3.7%) from their optimal size of the scale. If a comparison was made between the average efficiency scores, and the number of efficient banks of both countries, it would be evident that the win would be for India. Moreover, if we consider the level of inefficiency, Indian banks showed a lower average percentage, as compared to Pakistani banks, in the separate country analysis.

The findings of the joint country analysis were quite interesting, and completely in line with a study conducted by (Sathye, 2015). The score of efficiency declined as the frontier got wider. Moreover, the average efficiency showed a decrease, because each bank that was taken into consideration, from each of the countries, was relatively compared with all the banks that were included in the analysis. Moreover, the cross-country frontier analysis broadened the scope of the comparison that resulted the

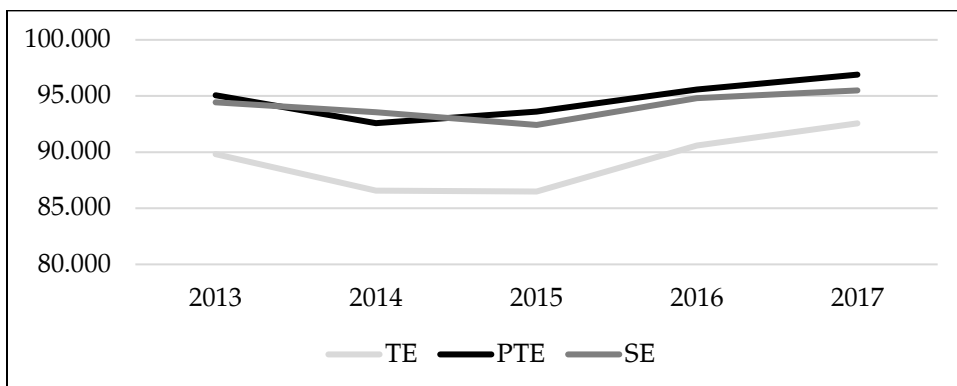
reduction of the efficiency estimates, as seen in Table 4. On an overall scale, both the countries excelled by 89.2% in technological utilization, with a 94.7% win in terms of the managerial competences, and 94.1% win in keeping the optimal size of the productively intact, throughout the period of analysis. In addition to this, we can clearly observe that the private banks of both the countries reacted, by performing consistently well after the year 2015. The efficiency lines seen in the Figure 3 have been seen to be moving faster in an upward direction, so as to achieve the maximum level of efficiency. It is also worth noticing that after 2015, the number of efficient banks tended to increase, and the levels of inefficiency decreased, as clearly seen in Annexure-B of this paper.

Table 4: Joint Country Analysis of Pakistan & India. Year-Wise Efficiency Summary

| YEAR | TE | PTE | SE | T-INE | PT-INE | S-INF | No. of Efficient Banks |
|----------------|---------------|---------------|---------------|---------------|--------------|--------------|------------------------|
| 2013 | 89.805 | 95.063 | 94.443 | 10.195 | 4.937 | 5.557 | 9 |
| 2014 | 86.563 | 92.579 | 93.552 | 13.437 | 7.421 | 6.448 | 5 |
| 2015 | 86.489 | 93.600 | 92.419 | 13.511 | 6.400 | 7.581 | 5 |
| 2016 | 90.595 | 95.568 | 94.819 | 9.405 | 4.432 | 5.181 | 8 |
| 2017 | 92.561 | 96.903 | 95.496 | 7.439 | 3.097 | 4.504 | 12 |
| Average | 89.203 | 94.743 | 94.146 | 10.797 | 5.257 | 5.854 | 7.800 |

Source: Author's own estimates

Note: TE is the Technical efficiency, PTE is the Pure technical efficiency, SE is the Scale efficiency, T-INE is the Technical inefficiency, PT-INE is the Pure technical inefficiency, and S-INE is the Scale inefficiency.

Figure 3: Efficiency Trend of Pakistani and Indian Private Banks

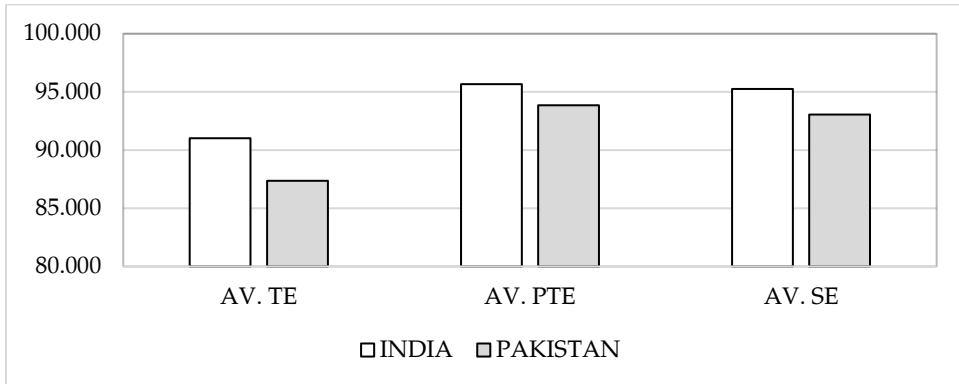
Had we penetrated deeper, and distributed the joint frontier analysis between the two countries, the performance of each country could then be judged separately. The country-wise average efficiency scores have been given in Table 5. The average TE, PTE and SE of the private banks in India, for the five years taken into consideration, encompassing a time frame from the year 2013 to 2017, came out to be 91%, 95.7% and 95.3%, respectively. These values were clearly more than the 87.4%, 93.8% and 93% of the Pakistani banks.

Table 5: Joint country analysis of India and Pakistan. Country-wise efficiency summary

| Country | AV. TE | AV. PTE | AV. SE |
|----------|--------|---------|--------|
| India | 91.032 | 95.661 | 95.251 |
| Pakistan | 87.374 | 93.844 | 93.040 |

Source: Author's own estimates

Note: AV. TE is the Average Technical Efficiency, AV. PTE is the Average Pure Technical Efficiency, and AV. SE is the Average Scale Efficiency

Figure 4: Efficiency Bars of Pakistani and Indian Private Banks

The heights of the average scores of the three efficiency levels in the Figure 4 also proved the evidence confirming the superior position of Indian banks over Pakistani banks.

Here, it is noteworthy that the banks that have been considered, either in the separate country analysis, or in the joint country analysis, have shown 100% TE scores. Moreover, they have always reflected the same scores for PTE and SE as well. But some banks that have been highlighted in the Annexures have shown 100% scores of PTE, but they have not shown 100% scores of TE. This primarily means that the banks that failed to influence the grand efficiency frontier, while operating with the VRS, were declared to be inefficient. This inefficiency was either due to the PTE or SE that should have ideally been improved in order to meet the highest level of efficiency. It also means that if a bank operates at a level that is more than the productive scale size, or operates at a level that is less than that scale, it will be considered as an inefficient bank. To analyze this revelation more closely, the study looked into a returns to scale analysis.

4.2. Returns To Scale Analysis

The applied models restrict the sampled banks of Pakistan and India, to operate according to either the CRS or the VRS framework. While functioning with the CRS, it was noticed that an increase in the input required a same, proportionate increase in the output. Contrary to this however, an increase in the input demands a disproportionate growth in the output, particularly when the banks operate under the VRS. Therefore, while working with the VRS, the returns to scale that were experienced over the years that have been taken into consideration may either be an

increasing, decreasing or constant return to scale (CRS, IRS, DRS). Moreover, when a bank's measured output of relative efficiency returns at the level of the CRS, it means that it is operating at a 100% level of efficiency. Furthermore, when the efficiency level increases with the passage of time, it indicates towards an operation at the IRS, and vice versa. The return to scale analysis provides a much delegated picture of the analysis. There are a total of 38 banks that have been taken into consideration in the experiment, and every bank has to operate at least one scale of return, for each year.

When discussing the country level analysis, the results of the returns to scale of Pakistani private banks, are presented in Table 6. As it is evident, from the total sampled banks, 52% were operational at the DRS, 16% at IRS and, 33% at CRS. In this regard, Samba Bank and Summit Bank were banks that were fully efficient, with 100% efficiency scores at all the levels of efficiency, and showing their operational returns at CRS, as seen in Table 7. Furthermore, the same in the case for Indian banks. ICICI Bank, Tamilnad Mercantile Bank, Catholic Syrian Bank, and Lakshmi Vilas Bank were banks that were functioning at CRS. This is the primary reason why these banks were nominated as fully efficient banks, particularly in their own country's efficiency frontier analysis. It also means that these banks established the optimal combination of inputs and outputs in their operations, while always operating at CRS.

Table 6: Separate Country Analysis of Pakistan. Returns to Scale Analysis

| Banks | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | | Count bank in no. | | | Count bank % | | |
|---|------|-----|------|-----|------|-----|------|-----|------|-----|-------------------|-----|-----|--------------|-----|-----|
| | irs | drs | irs | drs | irs | drs | irs | drs | irs | drs | CRS | IRS | DRS | CRS | IRS | DRS |
| Albaraka Bank (Pakistan) Ltd. | irs | drs | irs | drs | irs | drs | irs | drs | irs | drs | 0 | 5 | 0 | 0 | 0 | 0 |
| Allied Bank Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Askari Bank Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| Bank Al-Habib Ltd. | - | - | - | - | drs | drs | - | - | - | - | 4 | 0 | 1 | 80 | 0 | 20 |
| Bank Alfalah Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Bankislami Pakistan Ltd. | irs | irs | irs | irs | irs | irs | irs | irs | irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| Dubai Islami Bank Pakistan Ltd. | irs | irs | irs | - | - | - | - | - | - | - | 3 | 2 | 0 | 60 | 40 | 0 |
| Faysal Bank Ltd. | - | drs | drs | drs | drs | drs | drs | drs | drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| Habib Bank Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Habib Metropolitan Bank Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| JS Bank Ltd. | irs | - | - | - | - | - | drs | drs | drs | drs | 3 | 1 | 1 | 60 | 20 | 20 |
| MCB Bank Ltd. | - | drs | drs | drs | drs | drs | drs | drs | drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| Meezan Bank Ltd. | irs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 1 | 1 | 3 | 20 | 20 | 60 |
| Samba Bank Ltd | - | - | - | - | - | - | - | - | - | - | 5 | 0 | 0 | 100 | 0 | 0 |
| Silkbank Limited | - | - | - | - | - | - | - | - | irs | irs | 4 | 1 | 0 | 80 | 20 | 0 |
| Soneri Bank Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| Standard Chartered Bank (Pakistan) Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Summit Bank Ltd. | - | - | - | - | - | - | - | - | - | - | 5 | 0 | 0 | 100 | 0 | 0 |
| United Bank Ltd. | drs | drs | drs | drs | drs | drs | drs | drs | drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| | | | | | | | | | | | 31 | 15 | 49 | 33 | 16 | 52 |

Source: Author's own estimates

Note: CRS Is the Constant Return to Scale, IRS Is the Increasing Return to Scale, And DRS Is the Decreasing Return to Scale

Whereas, when observing Table 7 at a glance, Indian banks exhibited percentages of 37%, 31% and 33% of the operating returns, when it came to the CRS, IRS, and the DRS measures consecutively. While making a comparison of the efficiency scores with the returns to scale results, in the separate country analysis, it can be clearly inferred that the overall Indian private banks have maintained higher efficiency scores (Table 2&3), as compared to Pakistani banks. Moreover, they also preserved the same position in their returns to scale analysis as well. Moreover, it can also be seen that 37% of the Indian banks were operating at CRS, and 31% of them were at IRS. However, the percentage of the Pakistani banks operating with CRS was at 33%, and the IRS was at a 16% level, which was observed to be lower than Indian banks.

Table 7: Separate Country Analysis of India. Returns to Scale Analysis

| Banks | 2013 | 2014 | 2015 | 2016 | 2017 | Count bank in no. | | | Count bank % | | |
|-------------------------------|-----------------|------|------|------|------|-------------------|-----------|-----------|--------------|-----------|-----------|
| | RETURN TO SCALE | | | | | | CRS | IRS | DRS | CRS | IRS |
| Axis Bank Ltd. | drs | drs | drs | - | - | 2 | 0 | 3 | 40 | 0 | 60 |
| City Union Bank Ltd. | irs | irs | irs | irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| DCB Bank Ltd. | irs | irs | irs | irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| Dhanlaxmi Bank Ltd | - | irs | - | - | - | 4 | 1 | 0 | 80 | 20 | 0 |
| HDFC Bank Ltd. | drs | drs | drs | drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| ICICI Bank Ltd. | - | - | - | - | - | 5 | 0 | 0 | 100 | 0 | 0 |
| Indusind Bank Ltd. | irs | irs | irs | irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| Kotak Mahindra Bank Ltd. | - | irs | irs | drs | irs | 1 | 3 | 1 | 20 | 60 | 20 |
| Nainital Bank Ltd. | irs | irs | irs | irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| RBL Bank | - | irs | irs | - | - | 3 | 2 | 0 | 60 | 40 | 0 |
| Tamilnad Mercantile Bank Ltd. | - | - | - | - | - | 5 | 0 | 0 | 100 | 0 | 0 |
| The Catholic Syrian Bank Ltd. | - | - | - | - | - | 5 | 0 | 0 | 100 | 0 | 0 |
| The Federal Bank Ltd. | irs | irs | drs | drs | drs | 0 | 2 | 3 | 0 | 40 | 60 |
| The Jammu & Kashmir Bank Ltd. | drs | drs | drs | drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| The Karnataka Bank Ltd. | drs | drs | drs | drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| The Karur Vysya Bank Ltd. | drs | irs | drs | drs | drs | 0 | 1 | 4 | 0 | 20 | 80 |
| The Lakshmi Vilas Bank Ltd. | - | - | - | - | - | 5 | 0 | 0 | 100 | 0 | 0 |
| The South Indian Bank Ltd. | drs | - | - | drs | drs | 2 | 0 | 3 | 40 | 0 | 60 |
| YES Bank | - | - | drs | drs | - | 3 | 0 | 2 | 60 | 0 | 40 |
| | | | | | | 35 | 29 | 31 | 37 | 31 | 33 |

Source: Author's own estimates

Note: CRS is the Constant Return to Scale, IRS is the Increasing Return to Scale, and DRS is the Decreasing Return to Scale

The results obtained from the table display that in India, a greater number of banks exhibit 100% efficiency scores (CRS), or increasing efficiency levels (IRS) as compared to Pakistani banks. While discussing about the DRS, the proportion of Pakistani banks is 52%, which is higher than the Indian banks. This essentially implies that Pakistani banks, operating with DRS, have shown lower efficiency scores. It can also be inferred from the comparison that working with CRS or IRS always enhances the efficiency. On the other hand, operating with DRS tends to reduce the efficiency level as well.

In the joint country analysis, the results of the returns to scale are tabulated in Table 8. On an overall level, the percentage of the total banks sampled that contained the DRS, IRS and CRS scores of both the countries were at 47%, 32%, and 22%, respectively. This happens to be a consolidated, unfavorable level of operating returns, as the value of the DRS is deemed to be higher. This is primarily because when we combined both the countries under the joint country analysis umbrella, the efficiency tended to decrease, which caused more banks to operate with DRS.

Table 8: Joint Country Analysis of Pakistan and India. Return to Scale Analysis

| Banks | 2013 2014 2015 2016 2017 | | | | | Count bank in no. | | | Count bank % | | |
|---|--------------------------|-----|-----|-----|-----|-------------------|-----------|-----------|--------------|-----------|-----------|
| | RETURN TO SCALE | | | | | CRS | IRS | DRS | CRS | IRS | DRS |
| India | | | | | | | | | | | |
| Axis Bank Ltd. | drs | drs | drs | - | - | 2 | 0 | 3 | 40 | 0 | 60 |
| City Union Bank Ltd. | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| DCB Bank Ltd. | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| Dhanlaxmi Bank Ltd | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| HDFC Bank Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| ICICI Bank Ltd. | - | - | - | - | drs | 4 | 0 | 1 | 80 | 0 | 20 |
| Indusind Bank Ltd. | irs | irs | drs | Irs | drs | 0 | 3 | 2 | 0 | 60 | 40 |
| Kotak Mahindra Bank Ltd. | - | irs | irs | Drs | drs | 1 | 2 | 2 | 20 | 40 | 40 |
| Nainital Bank Ltd. | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| RBL Bank | - | irs | irs | - | irs | 2 | 3 | 0 | 40 | 60 | 0 |
| Tamilnad Mercantile Bank Ltd. | - | - | drs | - | - | 4 | 0 | 1 | 80 | 0 | 20 |
| The Catholic Syrian Bank Ltd. | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| The Federal Bank Ltd. | irs | drs | drs | Drs | drs | 0 | 1 | 4 | 0 | 20 | 80 |
| The Jammu & Kashmir Bank Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| The Karnataka Bank Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| The Karur Vysya Bank Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| The Lakshmi Vilas Bank Ltd. | - | drs | drs | - | - | 3 | 0 | 2 | 60 | 0 | 40 |
| The South Indian Bank Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| YES Bank | - | drs | drs | Drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| | | | | | | 17 | 34 | 44 | 18 | 36 | 46 |
| Pakistan | | | | | | | | | | | |
| Albaraka Bank (Pakistan) Ltd. | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| Allied Bank Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Askari Bank Ltd. | drs | drs | drs | Drs | - | 1 | 0 | 4 | 20 | 0 | 80 |
| Bank Al-Habib Ltd. | - | - | drs | - | - | 4 | 0 | 1 | 80 | 0 | 20 |
| Bank Alfalah Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Bankislami Pakistan Ltd. | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| Dubai Islami Bank Pakistan Ltd. | irs | irs | - | Irs | irs | 1 | 4 | 0 | 20 | 80 | 0 |
| Faysal Bank Ltd. | - | drs | drs | Drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| Habib Bank Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Habib Metropolitan Bank Ltd. | irs | drs | drs | Drs | - | 1 | 1 | 3 | 20 | 20 | 60 |
| JS Bank Ltd. | irs | - | - | Drs | - | 3 | 1 | 1 | 60 | 20 | 20 |
| MCB Bank Ltd. | - | drs | drs | Drs | drs | 1 | 0 | 4 | 20 | 0 | 80 |
| Meezan Bank Ltd. | irs | drs | drs | Drs | - | 1 | 1 | 3 | 20 | 20 | 60 |
| Samba Bank Ltd | irs | irs | - | - | - | 3 | 2 | 0 | 60 | 40 | 0 |
| Silkbank Limited | irs | irs | irs | Irs | irs | 0 | 5 | 0 | 0 | 100 | 0 |
| Soneri Bank Ltd. | irs | irs | - | Drs | - | 2 | 2 | 1 | 40 | 40 | 20 |
| Standard Chartered Bank (Pakistan) Ltd. | drs | drs | drs | Drs | drs | 0 | 0 | 5 | 0 | 0 | 100 |
| Summit Bank Ltd. | - | - | - | - | - | 5 | 0 | 0 | 100 | 0 | 0 |
| United Bank Ltd. | drs | drs | drs | Drs | - | 1 | 0 | 4 | 20 | 0 | 80 |
| | | | | | | 24 | 26 | 45 | 25 | 27 | 47 |
| | | | | | | 41 | 60 | 89 | 22 | 32 | 47 |

Source: Author's own estimates

Note: CRS is the Constant Return to Scale, IRS is the Increasing Return to Scale, and DRS is the Decreasing Return to Scale.

If we were to analyze the results more deeply, and split the joint analysis, the efficiency of Indian banks tended to remain higher than that in Pakistani banks. Although the proportion of Pakistani banks, operating under the CRS has been higher than the Indian banks, yet, the percentage of Indian banks working with IRS happens to be much higher than that in Pakistani banks. As the increase in the efficiency acts as a factor, contributing towards an additive impact of CRS and IRS, it is also negatively associated with the increase in the DRS. Therefore, 18% of Indian banks tend to operate with CRS, and 36% with IRS. Whereas, 25% banks of Pakistan exhibit CRS, 27% work with IRS, and 47% operate with DRS. Moreover, the percentage of Pakistani banks operating with DRS i.e. 47%, is higher than the same variable in the Indian banks i.e. 46%. The reported results imply that the banks have experienced more points in CRS & IRS, showing better and more efficiency scores. Therefore, an increase in CRS and IRS has become one of the main sources of improvement in the efficiency, particularly for underperforming banks. But while looking at the results of DRS, it is clear that the efficiency responds in an opposite manner to the DRS. It also means that higher percentages of DRS contribute adversely towards all the levels of efficiency. Therefore, the efficient performance of the banks can be predicted by their returns to scale. Moreover, these findings are supported by the literary evidence available on this discipline (Aghimien et al., 2016; Banya & Biekpe, 2018; Yudistira, 2004).

Moving on, Table 9 specifies the annual productivity changes during the time span from 2013 to 2017, and the decomposed components of the banking sectors of both the countries. Overall, we can observe that the TFP change, during the five years of analysis is 1.014 ($Tfpch > 1$); thus showing a change in the TFP at a percentage of 1.4, during the period of analysis. The most productive year during the encompassed period was observed to be 2015, when the change in TFP was at a rate of 4.1%. It is also noteworthy that 2015 was the year which experienced a significant growth in the efficiency, for both the countries, in the joint country frontier analysis. The reason for this high rate of increase happened to be the positive progress of technological advancements ($Techch = 4.4\%$).

Table 9: Year-wise Malmquist Productivity Index of Private Commercial Banks of the SAARC Region

| Year | Effch | Techch | Pech | Sech | Tfpch |
|----------------|-------|--------|-------|-------|-------|
| 2014 | 0.964 | 1.075 | 0.974 | 0.989 | 1.035 |
| 2015 | 0.997 | 1.044 | 1.011 | 0.986 | 1.041 |
| 2016 | 1.051 | 0.902 | 1.022 | 1.029 | 0.948 |
| 2017 | 1.022 | 1.01 | 1.018 | 1.005 | 1.032 |
| Average | 1.008 | 1.005 | 1.006 | 1.002 | 1.014 |

Source: Author's own estimates

Note: EFFCH is the Technical Efficiency Change, TECHCH is the Technological Change, Pure Technical Efficiency Change, SECH is the Scale Efficiency Change, and TFPCH is the Total Factor Productivity Change.

Moreover, the year 2016 exhibited a deterioration of 5.2%. This decrease in the TFPCH was experienced due to the highest loss of technological component utilization, which was derived to be less than one (Techch=0.902). But the overall joint position of both the countries, reflected a positive change in the factor of Technical Efficiency, i.e., EFFCH, the Technological Component, i.e., TECHCH, Pure Technical Efficiency, i.e., PECH, and the Scale Efficiency, i.e., SECH which were recorded at 0.8%, 0.5%, 0.6%, 0.2%, respectively. Finally, when looking at the holistic picture, the entire MPI component contributed positively, in order to gain a positive TFP rate of 1.4%.

5. Conclusion

The motivation behind this study was to examine the efficiency and productivity of private commercial banks of Pakistan and India. It is common knowledge that the banking sectors of both the countries have faced serious ups and downs in the history of their banking sector development.

For the purpose of this paper, the efficiency has been evaluated by employing the DEA method. The results of efficiency are reported in the separate, as well as joint country context, and reflect the superiority of Indian banks over Pakistani banks. In this regard, the major source of the decline in the efficiency has been observed to be the poor progress in constructing the most productive use of the available input resources, during the time period that has been taken into consideration. Therefore, keeping the results in mind and making a comparative assessment, we observe that the private banks in India are more efficient in terms of making use of their input resources, as the scores of TE that are specific to

the Indian banks are more than that of the Pakistani banks, in both the analysis. The source of managerial inefficiency (PTE) also depends upon the underperformance of the managerial functions. In this case, the banking strategies of Indian banks are far better than those of the Pakistani banks. By combining the banks of both the countries, the overall, as well as the individual level of efficiency of each country seems to have decreased. This means that by expanding the room for experiment, so as to calculate the efficiency, the average efficiency will decrease, primarily due to the expansion in the relative comparison among the sampled banks.

The returns to scale analysis promulgates to find the source of inefficiency that might be prevailing. In both of the analysis performed, the Indian banks lead with a better operation, when it comes to the CRS and IRC. This is because the improvement in efficiency is responsible for the additive impact of CRS and IRS. Whereas, operating with DRS has always contributed adversely towards the factor of efficiency. The MPI results have also shown the changes in the decomposed elements of the TFP. The results of changes in TPF are positive, indicating an improvement in the combined effect of all the private banks included.

Nonetheless, the study has some limitations as well. The scope of the study can be expended by estimating the cost and profile of the efficiency. Moreover, an extension in the number of years considered, and increase in the number of developing countries in the experiment may enhance the scope as well. The determinants of the efficiency, and the inclusion of the banking and environment variables can also widen the range of the research.

References

- Aghimien, P. A., Kamarudin, F., Hamid, M., & Noordin, B. (2016). Efficiency of Gulf Cooperation Council Banks: Empirical evidence using data envelopment analysis. *Review of International Business and Strategy*, 26(1), 118-136.
- Ataullah*, A., Cockerill, T., & Le, H. (2004). Financial liberalization and bank efficiency: a comparative analysis of India and Pakistan. *Applied Economics*, 36(17), 1915-1924.
- Ayadi, R., Arbak, E., Naceur, S. B., & De Groen, W. P. (2015). Financial development, bank efficiency, and economic growth across the Mediterranean *Economic and social development of the Southern and Eastern Mediterranean countries* (pp. 219-233): Springer
- Baily, M. N., & Elliott, D. J. (2013). The role of finance in the economy: implications for structural reform of the financial sector. *The Brookings Institution*, 11.
- Banker, R. D., Charnes, A., & Cooper, W. W. (1984). Some models for estimating technical and scale inefficiencies in data envelopment analysis. *Management science*, 30(9), 1078-1092.
- Banya, R., & Biekpe, N. (2018). Banking Efficiency and its determinants in selected Frontier African Markets. *Economic Change and Restructuring*, 51(1), 69-95.
- Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2010). *Islamic vs. conventional banking: Business model, efficiency and stability*: The World Bank.
- Berger, A. N., & DeYoung, R. (1997). Problem loans and cost efficiency in commercial banks. *Journal of Banking & Finance*, 21(6), 849-870.
- Berger, A. N., & Humphrey, D. B. (1997). Efficiency of financial institutions: International survey and directions for future research. *European journal of operational research*, 98(2), 175-212.
- Bhattacharyya, A., & Pal, S. (2013). Financial reforms and technical efficiency in Indian commercial banking: A generalized stochastic frontier analysis. *Review of Financial Economics*, 22(3), 109-117.

- Casu, B., & Girardone, C. (2010). Integration and efficiency convergence in EU banking markets. *Omega*, 38(5), 260-267.
- Caves, D. W., Christensen, L. R., & Diewert, W. E. (1982). The economic theory of index numbers and the measurement of input, output, and productivity. *Econometrica: Journal of the Econometric Society*, 1393-1414.
- Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European journal of operational research*, 2(6), 429-444.
- Coelli, T. (1996). A guide to DEAP version 2.1: a data envelopment analysis (computer) program. *Centre for Efficiency and Productivity Analysis, University of New England, Australia*.
- Coelli, T. (1998). A multi-stage methodology for the solution of orientated DEA models. *Operations Research Letters*, 23(3-5), 143-149.
- Cooper, W., Seiford, L., Tone, K., & Zhu, J. (2007). Some models and measures for evaluating performances with DEA: past accomplishments and future prospects. *Journal of Productivity Analysis*, 28(3), 151-163.
- Cooper, W. W., Seiford, L. M., & Tone, K. (2000). *Data Envelopment Analysis: Kluwer Academic Publishers*.
- Das, S. K., & Drine, I. (2011a). Financial liberalization and banking sector efficiency in India: a Fourier Flexible functional form and stochastic frontier approach. *International Business and Management*, 2(1), 42-58.
- Das, S. K., & Drine, I. (2011b). Financial liberalization and banking sector: Efficiency in India. *International Business and Management*, 2(1), 42-58.
- Davutyan, N., & Yildirim, C. (2017). Efficiency in Turkish banking: post-restructuring evidence. *The European Journal of Finance*, 23(2), 170-191.
- Dong, Y., Hamilton, R., & Tippett, M. (2014). Cost efficiency of the Chinese banking sector: a comparison of stochastic frontier analysis and data envelopment analysis. *Economic Modelling*, 36, 298-308.

- Dutta, P., Jain, A., & Gupta, A. (2020). Performance analysis of non-banking finance companies using two-stage data envelopment analysis. *Annals of Operations Research*, 295(1), 91-116.
- Emrouznejad, A., & Yang, G.-l. (2018). A survey and analysis of the first 40 years of scholarly literature in DEA: 1978–2016. *Socio-Economic Planning Sciences*, 61, 4-8.
- Fang, Y., Hasan, I., & Marton, K. (2011). Bank efficiency in South-Eastern Europe. *Economics of Transition*, 19(3), 495-520.
- Färe, R., Grosskopf, S., Lindgren, B., & Roos, P. (1994). Productivity developments in Swedish hospitals: a Malmquist output index approach *Data Envelopment Analysis: Theory, Methodology, and Applications* (pp. 253-272): Springer
- Färe, R., Grosskopf, S., Lovell, C. K., & Pasurka, C. (1989). Multilateral productivity comparisons when some outputs are undesirable: a nonparametric approach. *The review of economics and statistics*, 90-98.
- Farrell, M. J. (1957). The measurement of productive efficiency. *Journal of the Royal Statistical Society. Series A (General)*, 120(3), 253-290.
- Fernandes, F. D. S., Stasinakis, C., & Bardarova, V. (2018). Two-stage DEA-Truncated Regression: Application in banking efficiency and financial development. *Expert Systems with Applications*, 96, 284-301.
- Fethi, M. D., & Pasiouras, F. (2010). Assessing bank efficiency and performance with operational research and artificial intelligence techniques: A survey. *European journal of operational research*, 204(2), 189-198.
- Fujii, H., Managi, S., & Matousek, R. (2014). Indian bank efficiency and productivity changes with undesirable outputs: A disaggregated approach. *Journal of banking & finance*, 38, 41-50.
- He, Z., Kelly, B., & Manela, A. (2017). Intermediary asset pricing: New evidence from many asset classes. *Journal of Financial Economics*, 126(1), 1-35.
- Kamarudin, F., Sufian, F., Loong, F. W., & Anwar, N. A. M. (2017). Assessing the domestic and foreign Islamic banks efficiency:

- Insights from selected Southeast Asian countries. *Future Business Journal*, 3(1), 33-46.
- Khalifa Al-Yousif, Y. (2002). Financial development and economic growth: another look at the evidence from developing countries. *Review of Financial Economics*, 11(2), 131-150.
- Kounetas, K., & Tsekouras, K. (2007). Measuring scale efficiency change using a translog distance function. *International Journal of business and economics*, 6(1), 63.
- Kumar, S., & Gulati, R. (2008). Evaluation of technical efficiency and ranking of public sector banks in India: An analysis from cross-sectional perspective. *International journal of productivity and performance management*, 57(7), 540-568.
- Lampe, H. W., & Hilgers, D. (2015). Trajectories of efficiency measurement: A bibliometric analysis of DEA and SFA. *European journal of operational research*, 240(1), 1-21.
- Levine, R. (1999). *Financial development and economic growth: views and agenda*: The World Bank.
- Majeed, M. T., & Zanib, A. (2016). Efficiency analysis of Islamic banks in Pakistan. *Humanomics*, 32(1), 19-32.
- Masoud, N., & Hardaker, G. (2012). The impact of financial development on economic growth: Empirical analysis of emerging market countries. *Studies in Economics and Finance*, 29(3), 148-173.
- Menyah, K., Nazlioglu, S., & Wolde-Rufael, Y. (2014). Financial development, trade openness and economic growth in African countries: New insights from a panel causality approach. *Economic Modelling*, 37, 386-394.
- Pasiouras, F. (2008). International evidence on the impact of regulations and supervision on banks' technical efficiency: an application of two-stage data envelopment analysis. *Review of Quantitative Finance and Accounting*, 30(2), 187-223.
- Porcelli, F. (2009). Measurement of Technical Efficiency. A brief survey on parametric and non-parametric techniques. *University of Warwick*, 11, 1-27.

- Rahman, M., Lambkin, M., & Hussain, D. (2016). Value creation and appropriation following M&A: A data envelopment analysis. *Journal of Business Research*, 69(12), 5628-5635.
- Sakouvogui, K. (2020). A comparative approach of stochastic frontier analysis and data envelopment analysis estimators: evidence from banking system. *Journal of Economic Studies*, Vol. 47 No. 7, pp. 1787-1810.
- Sathye, M. (2005). Technical efficiency of large bank production in Asia and the Pacific. *Multinational Finance Journal*, 9(1/2), 1-22.
- Say, J., Zhao, H., Agbenyegah, F. S., Nusenu, A. A., Boadi, E. A., & Egbadewoe, S. M. (2020). Regional efficiency disparities in rural and community banks in Ghana: A data envelopment analysis. *Journal of Psychology in Africa*, 30(3), 249-256.
- Seelanatha, L. (2010). Market structure, efficiency and performance of banking industry in Sri Lanka. *Banks and Bank Systems*, 5(1), 20-31.
- Seiford, L. M., & Thrall, R. M. (1990). Recent developments in DEA: the mathematical programming approach to frontier analysis. *Journal of econometrics*, 46(1-2), 7-38.
- Sherman, H. D., & Gold, F. (1985). Bank branch operating efficiency: Evaluation with data envelopment analysis. *Journal of Banking & Finance*, 9(2), 297-315.
- Stewart, C., Matousek, R., & Nguyen, T. N. (2016). Efficiency in the Vietnamese banking system: A DEA double bootstrap approach. *Research in International Business and Finance*, 36, 96-111.
- Sufian, F., & Akbar Noor Mohamad Noor, M. (2009). The determinants of Islamic banks' efficiency changes: Empirical evidence from the MENA and Asian banking sectors. *International Journal of Islamic and Middle Eastern Finance and Management*, 2(2), 120-138.
- Sufian, F., & Habibullah, M. S. (2012). Globalization and bank efficiency nexus: Symbiosis or parasites? *Review of Development Finance*, 2 (3-4), 139-155.
- Thagunna, K. S., & Poudel, S. (2012). Measuring bank performance of Nepali banks: A Data envelopment analysis (DEA) perspective. *International Journal of Economics and Financial Issues*, 3(1), 54-65.

- Thrall, R. M. (2000). Measures in DEA with an application to the Malmquist index. *Journal of productivity analysis*, 13(2), 125-137.
- Wanke, P., Barros, C. P., & Emrouznejad, A. (2016). Assessing productive efficiency of banks using integrated Fuzzy-DEA and bootstrapping: A case of Mozambican banks. *European Journal of Operational Research*, 249(1), 378-389.
- Yudistira, D. 2004. Efficiency in Islamic banking: an empirical analysis of eighteen banks. *Islamic economic studies*, 12

Separate Country Analysis of Pakistan Bank-Wise Efficiency Summary

| Banks | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | | | | | | | |
|---|--------------|--------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------|--------------|--------------|--------------|-------|
| | CRSTE | VRSTE SCALE | RS | CRSTE VRSTE SCALE | RS | CRSTE VRSTE SCALE | RS | CRSTE VRSTE SCALE | RS | CRSTE VRSTE SCALE | | | | | | |
| Albaraka Bank (Pakistan) Ltd. | 0.703 | 0.815 | 0.863 | irs | 0.755 | 0.885 | 0.853 | irs | 0.877 | 1.000 | 0.877 | irs | 0.902 | 1.000 | 0.902 | irs |
| Allied Bank Ltd. | 0.961 | 1.000 | 0.961 | drs | 0.853 | 1.000 | 0.853 | drs | 0.916 | 0.986 | 0.929 | drs | 0.945 | 1.000 | 0.945 | drs |
| Askari Bank Ltd. | 0.965 | 1.000 | 0.965 | drs | 0.876 | 1.000 | 0.876 | drs | 0.856 | 1.000 | 0.856 | drs | 0.947 | 1.000 | 0.947 | drs |
| Bank Al-Habib Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.928 | 1.000 | 0.928 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Bank Alfalah Ltd. | 0.890 | 1.000 | 0.890 | drs | 0.844 | 1.000 | 0.844 | drs | 0.885 | 1.000 | 0.885 | drs | 0.983 | 1.000 | 0.983 | drs |
| Bankislami Pakistan Ltd. | 0.855 | 0.959 | 0.892 | irs | 0.678 | 0.829 | 0.818 | irs | 0.630 | 0.648 | 0.971 | irs | 0.771 | 0.807 | 0.956 | irs |
| Dubai Islami Bank Pakistan Ltd. | 0.804 | 0.884 | 0.910 | irs | 0.890 | 0.906 | 0.983 | irs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Faysal Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 0.983 | 1.000 | 0.983 | drs | 0.982 | 1.000 | 0.982 | drs | 0.937 | 0.966 | 0.969 | drs |
| Habib Bank Ltd. | 0.920 | 1.000 | 0.920 | drs | 0.779 | 1.000 | 0.779 | drs | 0.952 | 1.000 | 0.952 | drs | 0.931 | 1.000 | 0.931 | drs |
| Habib Metropolitan Bank Ltd. | 0.995 | 1.000 | 0.995 | drs | 0.893 | 0.927 | 0.964 | drs | 0.922 | 0.957 | 0.963 | drs | 0.963 | 0.992 | 0.971 | drs |
| JS Bank Ltd. | 0.868 | 0.923 | 0.941 | irs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.832 | 0.834 | 0.997 | drs |
| MCB Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 0.941 | 1.000 | 0.941 | drs | 0.855 | 1.000 | 0.855 | drs | 0.791 | 1.000 | 0.791 | drs |
| Meezan Bank Ltd. | 0.911 | 0.918 | 0.993 | irs | 0.673 | 0.853 | 0.789 | drs | 0.655 | 0.827 | 0.792 | drs | 0.932 | 1.000 | 0.932 | drs |
| Samba Bank Ltd | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Silkbank Limited | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Soneri Bank Ltd. | 0.948 | 0.955 | 0.993 | drs | 0.941 | 0.956 | 0.984 | drs | 0.934 | 0.946 | 0.988 | drs | 0.966 | 0.978 | 0.987 | drs |
| Standard Chartered Bank (Pakistan) Ltd. | 0.850 | 0.890 | 0.955 | drs | 0.780 | 0.858 | 0.909 | drs | 0.751 | 0.854 | 0.880 | drs | 0.718 | 0.867 | 0.828 | drs |
| Summit Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| United Bank Ltd. | 0.892 | 1.000 | 0.892 | drs | 0.790 | 1.000 | 0.790 | drs | 0.814 | 1.000 | 0.814 | drs | 0.856 | 0.975 | 0.878 | drs |
| AVERAGE | 0.924 | 0.965 | 0.956 | | 0.878 | 0.959 | 0.914 | | 0.892 | 0.959 | 0.930 | | 0.917 | 0.966 | 0.950 | |

Source: Author's own estimates

Note: Blank Constant Return to Scale, IRS Increasing Return to Scale, And DRS Decreasing Return to Scale

Separate Country Analysis of India Bank-Wise Efficiency Summary

| Banks | 2013 | | | 2014 | | | 2015 | | | 2016 | | | 2017 | | | | |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | |
| Axis Bank Ltd. | 0.910 | 1.000 | 0.910 | 0.892 | 0.923 | 0.967 | 0.936 | 0.936 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| City Union Bank Ltd. | 0.937 | 0.939 | 0.998 | 0.888 | 0.918 | 0.967 | 0.858 | 0.886 | 0.886 | 0.857 | 0.860 | 0.996 | 0.883 | 0.897 | 0.985 | 0.985 | 0.985 |
| DCB Bank Ltd. | 0.919 | 1.000 | 0.919 | 0.908 | 1.000 | 0.908 | 0.914 | 0.914 | 1.000 | 0.993 | 1.000 | 0.993 | 0.998 | 1.000 | 0.998 | 0.998 | 0.998 |
| Dhanlaxmi Bank Ltd | 1.000 | 1.000 | 1.000 | 0.984 | 1.000 | 0.984 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| HDFC Bank Ltd. | 0.951 | 1.000 | 0.951 | 0.954 | 1.000 | 0.954 | 0.895 | 1.000 | 0.895 | 0.925 | 1.000 | 0.925 | 0.991 | 1.000 | 0.991 | 0.991 | 0.991 |
| ICICI Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Indusind Bank Ltd. | 0.895 | 0.896 | 0.999 | 0.931 | 0.938 | 0.993 | 0.961 | 0.962 | 0.999 | 0.938 | 0.946 | 0.992 | 0.946 | 0.948 | 0.998 | 0.998 | 0.998 |
| Kotak Mahindra Bank Ltd. | 1.000 | 1.000 | 1.000 | 0.833 | 0.868 | 0.960 | 0.778 | 0.813 | 0.957 | 0.877 | 0.895 | 0.980 | 0.915 | 0.917 | 0.998 | 0.998 | 0.998 |
| Naitital Bank Ltd. | 0.687 | 1.000 | 0.687 | 0.672 | 1.000 | 0.672 | 0.615 | 1.000 | 0.615 | 0.658 | 1.000 | 0.658 | 0.793 | 1.000 | 0.793 | 0.793 | 0.793 |
| RBL Bank | 1.000 | 1.000 | 1.000 | 0.848 | 1.000 | 0.848 | 0.987 | 1.000 | 0.987 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Tamilnad Mercantile Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| The Catholic Syrian Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| The Federal Bank Ltd. | 0.905 | 0.906 | 0.999 | 0.852 | 0.854 | 0.998 | 0.852 | 0.861 | 0.990 | 0.906 | 0.913 | 0.993 | 0.930 | 1.000 | 0.930 | 0.930 | 0.930 |
| The Jammu & Kashmir Bank Ltd. | 0.850 | 0.892 | 0.953 | 0.888 | 0.915 | 0.971 | 0.881 | 0.956 | 0.921 | 0.987 | 1.000 | 0.987 | 0.915 | 1.000 | 0.915 | 0.915 | 0.915 |
| The Karnataka Bank Ltd. | 0.926 | 0.932 | 0.994 | 0.951 | 0.965 | 0.985 | 0.960 | 1.000 | 0.960 | 0.885 | 0.894 | 0.990 | 0.933 | 1.000 | 0.933 | 0.933 | 0.933 |
| The Karur Vysya Bank Ltd. | 0.990 | 1.000 | 0.990 | 0.999 | 1.000 | 0.999 | 0.987 | 0.994 | 0.992 | 0.970 | 0.976 | 0.993 | 0.923 | 0.932 | 0.990 | 0.990 | 0.990 |
| The Lakshmi Vilas Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| The South Indian Bank Ltd. | 0.955 | 1.000 | 0.955 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.958 | 0.983 | 0.975 | 0.943 | 1.000 | 0.943 | 0.943 | 0.943 |
| YES Bank | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.942 | 0.994 | 0.948 | 0.925 | 1.000 | 0.925 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| AVERAGE | 0.943 | 0.977 | 0.966 | 0.926 | 0.967 | 0.958 | 0.925 | 0.972 | 0.952 | 0.941 | 0.972 | 0.969 | 0.956 | 0.984 | 0.984 | 0.984 | 0.984 |

Source: Author's own estimates

Note: Blank Constant return to scale, IRS Increasing return to scale, and DRS Decreasing return to scale

Joint Country Analysis of India & Pakistan Bank-Wise Efficiency Summary

| INDIAN BANKS | 2013 | | | 2014 | | | 2015 | | | 2016 | | | 2017 | | | |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS |
| Axis Bank Ltd. | 0.910 | 1.000 | 0.910 | 0.883 | 0.923 | 0.957 | 0.915 | 0.915 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| City Union Bank Ltd. | 0.937 | 0.939 | 0.998 | 0.868 | 0.874 | 0.994 | 0.995 | 0.995 | 0.830 | 0.834 | 0.995 | 0.995 | 0.857 | 0.860 | 0.996 | 0.996 |
| DCB Bank Ltd. | 0.919 | 1.000 | 0.919 | 0.892 | 0.931 | 0.958 | 0.902 | 0.902 | 0.889 | 0.985 | 1.000 | 0.993 | 0.993 | 1.000 | 0.996 | 0.996 |
| Dhanlaxmi Bank Ltd | 0.979 | 1.000 | 0.979 | 0.869 | 0.886 | 0.981 | 0.935 | 0.935 | 0.840 | 0.898 | 1.000 | 0.978 | 0.939 | 1.000 | 0.939 | 0.939 |
| HDFC Bank Ltd. | 0.951 | 1.000 | 0.951 | 0.944 | 1.000 | 0.944 | 0.879 | 0.879 | 0.879 | 1.000 | 0.879 | 0.925 | 0.988 | 1.000 | 0.988 | 0.988 |
| ICICI Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.996 | 1.000 | 0.996 | 0.996 |
| Indusind Bank Ltd. | 0.895 | 0.896 | 0.999 | 0.930 | 0.933 | 0.997 | 0.990 | 0.990 | 0.950 | 0.959 | 0.990 | 0.992 | 0.938 | 0.946 | 0.992 | 0.987 |
| Kotak Mahindra Bank Ltd. | 1.000 | 1.000 | 1.000 | 0.833 | 0.850 | 0.980 | 0.975 | 0.975 | 0.778 | 0.798 | 0.975 | 0.991 | 0.877 | 0.885 | 0.991 | 0.990 |
| Nainital Bank Ltd. | 0.687 | 1.000 | 0.687 | 0.645 | 1.000 | 0.645 | 0.571 | 0.571 | 0.571 | 1.000 | 0.571 | 0.622 | 0.630 | 1.000 | 0.630 | 0.630 |
| RBL Bank | 1.000 | 1.000 | 1.000 | 0.839 | 0.948 | 0.886 | 0.943 | 0.943 | 0.911 | 0.966 | 0.943 | 1.000 | 0.986 | 0.990 | 0.990 | 0.996 |
| Tamilnad Mercantile Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.985 | 0.985 | 0.985 | 1.000 | 0.985 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| The Catholic Syrian Bank Ltd. | 0.977 | 0.994 | 0.983 | 0.860 | 0.869 | 0.990 | 0.983 | 0.983 | 0.869 | 0.894 | 0.973 | 0.954 | 0.820 | 0.859 | 0.954 | 0.923 |
| The Federal Bank Ltd. | 0.905 | 0.906 | 0.999 | 0.829 | 0.844 | 0.983 | 0.930 | 0.930 | 0.820 | 0.860 | 0.953 | 0.985 | 0.883 | 0.897 | 0.985 | 0.926 |
| The Jammu & Kashmir Bank Ltd. | 0.847 | 0.892 | 0.950 | 0.832 | 0.915 | 0.909 | 0.915 | 0.915 | 0.811 | 0.872 | 0.930 | 0.960 | 0.960 | 1.000 | 0.960 | 0.919 |
| The Karnataka Bank Ltd. | 0.926 | 0.932 | 0.994 | 0.885 | 0.930 | 0.952 | 0.935 | 0.935 | 0.873 | 0.934 | 0.935 | 0.987 | 0.845 | 0.856 | 0.987 | 0.974 |
| The Karur Vysya Bank Ltd. | 0.990 | 1.000 | 0.990 | 0.968 | 0.997 | 0.971 | 0.971 | 0.971 | 0.942 | 0.988 | 0.953 | 0.985 | 0.961 | 0.976 | 0.985 | 0.921 |
| The Lakshmi Vilas Bank Ltd. | 1.000 | 1.000 | 1.000 | 0.923 | 0.929 | 0.993 | 0.941 | 0.941 | 0.941 | 0.971 | 0.970 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| The South Indian Bank Ltd. | 0.955 | 1.000 | 0.955 | 0.966 | 1.000 | 0.966 | 0.923 | 0.923 | 0.923 | 1.000 | 0.923 | 0.967 | 0.950 | 0.983 | 0.967 | 0.910 |
| YES Bank | 1.000 | 1.000 | 1.000 | 0.940 | 1.000 | 0.940 | 0.948 | 0.948 | 0.894 | 0.943 | 0.948 | 0.965 | 0.925 | 0.959 | 0.965 | 0.996 |
| AVERAGE | 0.941 | 0.977 | 0.964 | 0.890 | 0.938 | 0.950 | 0.930 | 0.930 | 0.875 | 0.942 | 0.942 | 0.963 | 0.923 | 0.959 | 0.963 | 0.967 |

Source: Author's own estimates

Note: Blank Constant return to scale, IRS Increasing return to scale, and DRS Decreasing return to scale

Joint Country Analysis of India & Pakistan Bank-Wise Efficiency Summary

| INDIAN BANKS | 2013 | | | 2014 | | | 2015 | | | 2016 | | | 2017 | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | CRSTE | VRSTE | SCALE | RS | | | | | | | | |
| PAKISTANI BANKS | | | | | | | | | | | | | | | | | | | | | | | | |
| Albaraka Bank (Pakistan) Ltd. | 0.634 | 0.776 | 0.817 | irs | 0.716 | 0.826 | 0.867 | irs | 0.771 | 1.000 | 0.771 | irs | 0.753 | 0.875 | 0.861 | 0.823 | 1.000 | 0.823 | 1.000 | 0.951 | 1.000 | 0.949 | drs | |
| Allied Bank Ltd. | 0.922 | 0.925 | 0.996 | drs | 0.851 | 0.879 | 0.968 | drs | 0.916 | 0.973 | 0.942 | drs | 0.945 | 1.000 | 0.945 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Askari Bank Ltd. | 0.915 | 1.000 | 1.000 | drs | 0.875 | 1.000 | 0.875 | drs | 0.856 | 1.000 | 0.856 | drs | 0.947 | 1.000 | 0.947 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Bank AL-Habib Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.928 | 1.000 | 0.928 | drs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Bank Alfalah Ltd. | 0.799 | 1.000 | 0.799 | drs | 0.843 | 1.000 | 0.843 | drs | 0.885 | 1.000 | 0.885 | drs | 0.950 | 1.000 | 0.950 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| BankIslami Pakistan Ltd. | 0.748 | 0.957 | 0.781 | irs | 0.619 | 0.765 | 0.810 | irs | 0.580 | 0.648 | 0.894 | irs | 0.724 | 0.771 | 0.939 | irs | 0.850 | 0.938 | 0.907 | irs | 0.850 | 0.938 | 0.907 | irs |
| Dubai Islami Bank Pakistan Ltd. | 0.678 | 0.862 | 0.787 | irs | 0.834 | 0.898 | 0.928 | irs | 1.000 | 1.000 | 1.000 | 1.000 | 0.904 | 0.972 | 0.930 | irs | 0.947 | 1.000 | 0.947 | 1.000 | 0.947 | 1.000 | 0.947 | irs |
| Faysal Bank Ltd. | 0.931 | 0.932 | 1.000 | 1.000 | 0.920 | 0.943 | 0.976 | drs | 0.896 | 0.932 | 0.962 | drs | 0.878 | 0.896 | 0.981 | drs | 0.862 | 0.881 | 0.978 | drs | 0.862 | 0.881 | 0.978 | drs |
| Habib Bank Ltd. | 0.903 | 1.000 | 0.903 | drs | 0.779 | 1.000 | 0.779 | drs | 0.952 | 1.000 | 0.952 | drs | 0.931 | 1.000 | 0.931 | drs | 0.915 | 1.000 | 0.915 | 1.000 | 0.915 | 1.000 | 0.915 | drs |
| Habib Metropolitan Bank Ltd. | 0.864 | 0.892 | 0.968 | irs | 0.893 | 0.917 | 0.974 | drs | 0.922 | 0.957 | 0.963 | drs | 0.963 | 0.992 | 0.971 | drs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| JS Bank Ltd. | 0.798 | 0.922 | 0.865 | irs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.832 | 0.834 | 0.997 | drs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| MCB Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 0.941 | 1.000 | 0.941 | drs | 0.855 | 1.000 | 0.855 | drs | 0.784 | 0.989 | 0.793 | drs | 0.764 | 0.887 | 0.861 | drs | 0.764 | 0.887 | 0.861 | drs |
| Meezan Bank Ltd. | 0.870 | 0.888 | 0.979 | irs | 0.618 | 0.669 | 0.923 | drs | 0.600 | 0.673 | 0.892 | drs | 0.903 | 1.000 | 0.903 | drs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Samba Bank Ltd | 0.890 | 1.000 | 0.890 | irs | 0.819 | 1.000 | 0.819 | irs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Silkbank Limited | 0.931 | 1.000 | 0.931 | irs | 0.928 | 1.000 | 0.928 | irs | 0.707 | 0.950 | 0.744 | irs | 0.879 | 1.000 | 0.879 | irs | 0.908 | 1.000 | 0.908 | 1.000 | 0.908 | 1.000 | 0.908 | irs |
| Soneri Bank Ltd. | 0.850 | 0.882 | 0.964 | irs | 0.817 | 0.842 | 0.970 | irs | 0.812 | 0.812 | 1.000 | 1.000 | 0.925 | 0.934 | 0.991 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Standard Chartered Bank (Pakistan) Ltd. | 0.738 | 0.743 | 0.993 | drs | 0.780 | 0.812 | 0.961 | drs | 0.751 | 0.854 | 0.880 | drs | 0.718 | 0.867 | 0.828 | drs | 0.755 | 0.831 | 0.909 | drs | 0.755 | 0.831 | 0.909 | drs |
| Summit Bank Ltd. | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| United Bank Ltd. | 0.777 | 0.786 | 0.988 | drs | 0.755 | 0.800 | 0.944 | drs | 0.814 | 0.886 | 0.919 | drs | 0.856 | 0.965 | 0.887 | drs | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| AVERAGE | 0.855 | 0.924 | 0.925 | | 0.841 | 0.913 | 0.921 | | 0.855 | 0.931 | 0.918 | | 0.889 | 0.952 | 0.933 | | 0.928 | 0.971 | 0.954 | | 0.928 | 0.971 | 0.954 | |
| OVERALL AVERAGE | 0.898 | 0.951 | 0.944 | | 0.866 | 0.926 | 0.936 | | 0.865 | 0.937 | 0.924 | | 0.906 | 0.956 | 0.948 | | 0.926 | 0.969 | 0.955 | | 0.926 | 0.969 | 0.955 | |

Source: Author's own estimates

Note: Blank Constant return to scale, IRS Increasing return to scale, and DRS Decreasing return to scale

(In) Direct Effects of Customer-Defined Market Orientation on Brand Loyalty through Purchase Intention and Brand Image: A Parallel Mediation Approach

Naveed R. Khan*, Zain Ul Abedin, and Arsalan Mujahid Ghouri*****

Abstract

This study investigates the impact of market orientation on brand loyalty, primarily through variables pertaining to the purchase intention and brand image. In order to achieve this aim, this study have resorted to testing the relationships between customer-defined market orientation and purchase intention, and the brand image, leading to brand loyalty. In this regard, the study is quantitative in nature, and uses the cross-sectional design. For this purpose, the primary data were collected from gold jewelry customers (n = 413) from Karachi, Pakistan. Three key findings emerged from the structural model testing. The first finding revealed that the customer, competitor and interventional orientation are positively associated with the purchase intention, brand image and loyalty of gold jewelry customers. Secondly, in simple mediation, the purchase intentions and brand image tend to fully mediate the impact of customer orientation, and competitor orientation on the brand loyalty of gold jewelry customers, while partially mediating the association between the interfunctional coordination and brand loyalty. The third finding revealed that, in parallel to the mediation effect, the impact of customer, competitor and interfunctional orientation on brand loyalty is fully mediated by the purchase intention and brand image. This research is useful for gold jewelry businesses and business owners, since on a comparative level, less research has been conducted in the domestic industry of Pakistan.

Keywords: Market orientation; purchase intention; brand image; brand loyalty; and gold jewelry.

JEL classification: M19, M31, M37.

* Associate Professor, Department of Management Studies, Bahria University, Karachi, Pakistan.

** Strategy Specialist, Meezan Bank, Karachi, Pakistan.

*** Senior Lecturer, University Pendidikan Sultan Idris, Malaysia, and Adjunct Faculty, Montpellier Business School, France.

1. Introduction

The magnitude of gold business is profoundly expanding worldwide, as it is a luxury good that is ever so popular on a global level. In Pakistan, the import and export of gems and jewelry seems to have indicated a remarkable amount of progress in the recent years (Pakistan Gems and Jewelry Development Company, 2020). In this regard, according to the Government of Pakistan (2013), the exports of gems and jewelry worth \$1.62 billion were recorded in the year 2012 alone.

Pakistan enjoys the status of being the 40th largest economy of the world (Zahid, 2017). However, the GDP growth experienced a decline of -1.5% in the year 2020, due to multiple factors that came into play (World Bank, 2020). Haq (2016) reported that the retail market size of Pakistan is projected to be around \$152 billion, and the market growth rate has also been rising by about 8 %, on an annual basis. Furthermore, the retail sector contributes towards 18% of the total GDP, and provides employment to about 16% of the total labor force (Shaikh, 2017). According to the Trade Development Authority of Pakistan (2016), approximately 20,000 jewelry retailers provided access to precious jewels, and other related services, to customers across the country. It is generally believed that international investors seek a secure shelter by investing in precious metals like gold in countries such as Pakistan (Opdyke, 2010). More and more investors are willing to invest in gold bullion, because the demand for gold has been on the rise in the last few years, which positions Pakistan among the top ten consumers of gold, around the globe (Daily Times, 2009). From the retailer's perspective, the gold jewelry industry significantly growing; however, research provides limited evidence on how the gold jewelry business owners/managers are able to create loyal consumers of this luxury product.

A popular concept emerging from marketing literature is that of market orientation. Market orientation reflects a firm's ability to respond to the changing market conditions, by gaining useful information from different sources (within and outside the enterprise), in order to create superior customer value (Coley, Mentzer, & Cooper , 2010; Sampaio, Mogollón, & Rodrigues , 2020). In earlier studies, market orientation has often been linked to brand loyalty. This primarily means that a loyal customer base holds strategic value in a firm's marketing planning. This is so because a loyal customer tends to be a valuable source of advantage that a firm may realize through its market orientation. That is to say that, a higher level of market orientation efforts lead to enhanced customer

loyalty. This, in turn, improves the economic performance of the firms as well (Maydeu-Olivares & Lado, 2003). In this regard, Webb, Webster, and Kreppa (2000) provided empirical support, by showing a positive association between market orientation and customer satisfaction. The higher the level of the customers' satisfaction, the more they will tend to show the repurchase behavior, thus leading to increased brand loyalty. However, the available extant literature provides unclear understanding of the path between market orientation and brand loyalty (Sampaio, Hernández-Mogollón, & Rodrigues, 2019).

Therefore, in order to fill in the research gaps, this study aims to link market orientation and brand loyalty, through the variables of purchase intention and brand image. In pursuit of fulfilling this research aim, this particular study eventually makes a few contributions to the literature as well. First, following the teachings of Webb et al. (2000), this study develops a customer's perspective of market orientation. Following this context, it can be observed that firms increasingly use the concept of market orientation towards its customers and competitors, and also its interfunctional coordination, in order to thrive in their respective businesses (Atuahene-Gima, 1996). These factors thus tend to have a positive association with the purchase intention, brand image and loyalty (Liu, Wong, Tseng, Chang, & Phau, 2017). Furthermore, according to Webb et al. (2000), one of the critical measures of business performance is the customer's perception regarding the level of customer orientation in a firm, as opposed to that of the seller. Secondly, literature also provides empirical evidence of the notion that the purchase intentions and brand image tend to increase brand loyalty (Aghekyan-Simonian et al., 2012). Subsequently, this study empirically validates a parallel mediation model of the indirect effect of customer-defined market orientation on luxury brand loyalty, in the presence of the variables of purchase intention and brand image.

2. Theoretical Background and Hypotheses Development

2.1. Market Orientation and Purchase Intention

Market orientation has been defined as a firm's attempt to develop a set of reflective measures that can be used for monitoring, analyzing and responding to market changes. These market changes are usually caused by competitive rivalry, the ever changing consumer preferences and technological progress (Maydeu-Olivares & Lado, 2003). With the changes experienced in the business landscape, and the advent of relational marketing research, market orientation has been conceptualized as a

competitive strategy (Baker & Sinkula, 1999). This competitive strategy primarily reflects a firm's orientation towards customers, competitors and the inter-functional coordination (Maydeu-Olivares & Lado, 2003). In this regard, the first dimension i.e. the customer orientation, is referred to as the customer focused market orientation (Akbarov, 2018). Additionally, following the context that has been set by Narver and Slater (1990), and Foss and Stone (2001), and Akbarov (2018) defined customer orientation as a firm's ability to continuously recognize the existing and potential customers, and create positive customer value, by viewing things from the customer's perspective. The second dimension i.e. competitor orientation is a rival/peer-business focused market orientation (Akbarov, 2018). In this orientation, by knowing its competitors, a firm may gather useful information about the strategies, potential services/products, and policy behaviors of competing firms. Once again, taking inspiration from the teachings of Narver and Slater (1990), Akbarov (2018) defined competitor orientation as the ability of a firm to recognize the capabilities and strategies of key performers, who are serving the target market, and use this information to create value for customers. The third dimension i.e. the inter-functional orientation, refers to the degree of coordination among various business activities, so as to create superior customer value, by gathering useful information from customer experiences and other marketing activities (Danziger, 2005; Akbarov, 2018).

Traditionally, the purchase intention has served as a valuable source for marketers, to gain insights into the actual purchase behavior of consumers (Haque et al., 2015). The purchase intention reflects a complex decision making situation, in which consumers are likely to buy a particular product, under particular conditions that are favorable to them (Mirabi, Akbariyeh, & Tahmasebifard, 2015). According to Kennedy, Lassk and Goolsby (2002) organizations must understand the requirements of customers and the marketplace, be able to share the knowledge in the firm, and align and balance the system capabilities internally. This, in turn, will help organizations to achieve their maximum performance i.e. the induction of the purchase intention by a potential consumer. Following this context, Jaworski and Kohli (1993) also shared the same view that, market orientation and its sub-constructs are positively associated with business performance. In this particular study, cultural and behavioral approaches to market orientation have been adopted, specifically where the customer is viewed as central to the market orientation manifesto, and the consumer needs and expectations are shared by the relevant stakeholders as well (Cano, Carrillat, & Jaramillo, 2004). Correspondingly, it is hypothesized that:

- H₁:** There is a positive relationship between market orientation and the purchase intention.
- H_{1a}:** There is a positive relationship between customer orientation and the purchase intention.
- H_{1b}:** There is a positive relationship between competitor orientation and the purchase intention.
- H_{1c}:** There is a positive relationship between interfunctional coordination and the purchase intention.

2.2. *Market Orientation and Brand Image*

Brand image is defined as consumer perception that encompasses the belief that consumers have about a brand (Nandan, 2005). It is considered an important factor in the creation of positive customer perception. In this regard, Duncan and Moriarty (1997) explained that marketing efforts should be focused and integrated towards protecting the brand's image. Moreover, Urde, Baumgarth and Merrilees (2013) suggested that market orientation accords importance to the brand's image. Firms that understand, and respond to the needs of customers, and make efforts accordingly to develop better products or services, are likely to reduce their operational costs and subsequently improve their performance. In this regard, Pitt, Caruana and Berthon (1996) also found a positive association between market orientation and the brand image. In addition to this, Adam and Tabrani (2016) argued that market orientation, in actuality, leads to the brand orientation strengthening a brand's performance. Therefore, keeping these revelations in context, this study hypothesizes:

- H₂:** There is a positive relationship between market orientation and the brand image.
- H_{2a}:** There is a positive relationship between customer orientation and the brand image.
- H_{2b}:** There is a significant positive between competitor orientation and the brand image.
- H_{2c}:** There is a positive relationship between interfunctional coordination and the brand image.

2.3. Market Orientation and Brand Loyalty

Brand loyalty can be defined as a profound commitment towards re-buying or re-patronizing a desired product or service consistently in the future. This particular behavior causes repetitive purchase of the same brand, regardless of the situational factors and the marketing efforts that may cause potential switching behavior (Oliver, 1999; Chandon, Morwitz, & Reinartz, 2005). It also generates a constant pool of customers for a business's products and services (Oliver, 1997). Some of the key determinants of brand loyalty include the brand switching cost, past brand experience/satisfaction, substitute availability, and the purchase related risks, as perceived by the customers (Javalgi, Martin, & Young, 2006). As per Kotler and Armstrong (1991), the concept of market orientation adds value in the transactions that take place between the provider and buyer, therefore, it positively affects the brand loyalty as well (McNaughton, Osborne & Imrie, 2002). In some of the earlier studies, a positive relationship was reported between market orientation and customer loyalty (Idenedo & Ebebuwa, 2019). Following the same stride, Sampaio et al. (2020) also stated that market orientation positively influences customer loyalty, leading to improved firm performance. When customers repetitively come back to purchase the same brand, their loyalty to the brand tends to increase. Thus, we propose the following hypotheses:

H₃: There is a positive relationship between market orientation and brand loyalty.

H_{3a}: There is a positive relationship between customer orientation and brand loyalty.

H_{3b}: There is a positive relationship between competitor orientation and brand loyalty.

H_{3c}: There is a positive relationship between interfunctional coordination and brand loyalty.

2.4. Purchase Intention and Brand Image as Mediators

In their study, Baldinger and Rubinson (1996) explained that brand loyalty sets the brand preferences, due to which the potential consumers will not consider other brands when they buy a product of their choice. Moreover, Mittal, Ross, and Baldasare (1998) considered the health care, and the automobile sectors to be relatively accurate measures to gauge the purchase intention. They also found that the consumer's loyalty towards a particular brand tends to positively influence their purchase intention.

Other studies on the discipline hinted regarding the positive relationship between purchase intention and brand loyalty (Aaker & Keller, 1990; Anderson, Knight, Pookulangara, & Josiam, 2014; King, Schilhavy, Chowa, & Chin, 2016). Therefore, we put forth the following hypotheses.

H_{4a}: Purchase intention fully mediates the positive effect of customer orientation on brand loyalty.

H_{4b}: Purchase intention fully mediates the positive effect of competitor orientation on brand loyalty.

H_{4c}: Purchase intention fully mediates the positive effect of interfunctional coordination on brand loyalty.

In their study, Johnson, Gustafsson, Andreassen, Lervik, and Cha (2001) explained that the more favorable the image of a product or business, the higher is the customer loyalty attached to it. Moreover, Esch, Langner, Schmitt and Geus (2006) also posited that the brand image creates a direct impact on a consumer's trust in a brand, which ultimately leads to brand loyalty. Other than that, Juntunen, Juntunen, and Juga (2011) also suggested that brand loyalty is, in fact, an outcome of brand image. Based on this literature, the following hypotheses are thus developed.

H_{4d}: Brand image mediates the positive effect of customer orientation on brand loyalty.

H_{4e}: Brand image mediates the positive effect of competitor orientation on brand loyalty.

H_{4f}: Brand image mediates the positive effect of interfunctional coordination on brand loyalty.

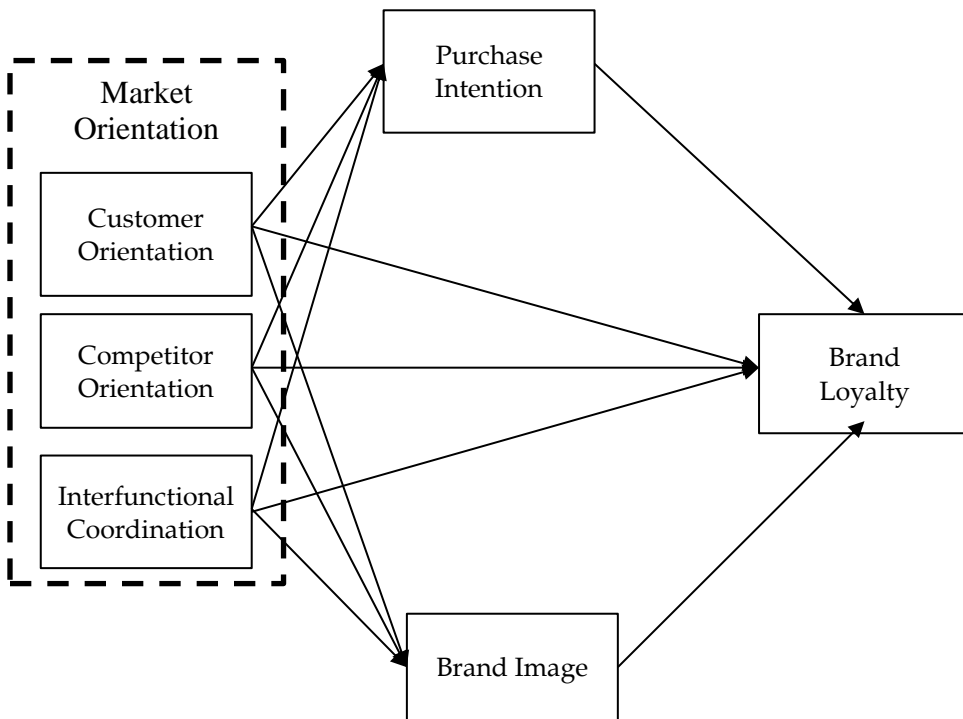
In a study conducted by Hayes (2009), it was suggested that there is a need of parallel mediation, when one theory proposes a mediator M1, and another theory might propose a different mediator M2, for the same relationship. Considering two or more mediators, that are not causally interrelated, is the most basic extension of a simple mediation model, and is known as a concept named as parallel mediation (Hayes, 2017). In Table 3, it is evident that the correlation matrix between the purchase intention and the brand image fulfill the proposed conditions of the said relationship. It is then that the following hypotheses are developed and tested in the later section of this study:

H_{5a}: Purchase intention and brand image mediate the positive effect of customer orientation on brand loyalty.

H_{5b}: Purchase intention and brand image mediate the positive effect of competitor orientation on brand loyalty.

H_{5c}: Purchase intention and brand image mediate the positive effect of interfunctional coordination on brand loyalty.

Figure 1: Conceptual Model



3. Methodology

When taking into consideration the research methodology, it is noteworthy that this study is quantitative in nature, and the unit of analysis is the customer of gold jewelry. Moreover, a cross-sectional study design has been used for this empirical investigation. In order to examine the brand loyalty of gold jewelry customers, we also coordinated with the owners/managers of gold jewelry businesses. These were primarily those individuals who were directly involved in business with the end customers. In the first step, we initially contacted the Karachi Saraf Jewelers Association, and requested for their recommendations, and then

the cooperation of the member jewelers for the data. In order to expedite the process, we met the President of the association in person. In the second step, we contacted the short listed gold jewelers in-person, and over the phone, so as to request them to participate as intermediary connections between gold jewelry customers and the researchers. The short listed list of jewelers was extracted through the convenience sampling method. A total of 89 jewelers, out of 191, agreed to participate in the survey, and facilitate the primary data collection process for this study. All the jewelers, who agreed to participate, were briefed about the research, and the purpose of this survey. After this step, a self-administered questionnaire was shared with these jewelers. A total of 3560 questionnaires were distributed among 89 jewelers (mean = 40), who asked their customers to voluntarily participate in the survey. As a preparatory method, the theme of the questionnaire, and the items were discussed in detail with at least two employees of the business (in 20 cases, only one), for any potential questions from the customers. We also informed the participating jewelers that the questionnaires would have to be collected within a 21 days' timeframe, as the customer visits to gold jewelry stores are not as frequent as to other accessory stores. At the end of a rigorous data collection exercise, a total of 1001 questionnaires were collected back from the jewelry business owners who had agreed to cooperate with us. During the screening of the questionnaire, and the data recording, it was observed that 570 questionnaires, out of 1001 questionnaires contained missing responses to the main questionnaire items. In these 570 returned questionnaires, only the demographic profiles were filled by the sample subjects, while the main questionnaire items were not responded to. Excluding these questionnaires which contained incomplete information, we were left with a mere 431 useful survey responses. These were then further filtered to a size of 413, due to the (i) missing questionnaire sections and, (ii) incomplete responses. Therefore, for this study, the final dataset comprised of a total of 413 responses.

The questionnaire comprised of literature-based items on each of the research variables, and the demographic profile including age, occupation and the educational level. In this study, the market orientation has been defined as a three-dimensional construct, comprising of customer orientation, competitor orientation and interfunctional orientation. Each of these three dimensions were operationalized using Webb et al.'s (2000) definition and relevant instruments. The customer orientation was measured using 6-items, while the competitor orientation was measured using 2-items, and the interfunctional coordination was measured using 3-items. Moreover, the variables pertaining to the purchase intention, brand

image, and brand loyalty were measured using four, thirteen and five items, respectively. Moving further, one item from each of the three variables i.e. the purchase intention, brand image and brand loyalty, was deleted due to its low score. At the end, all the variables were reflective indicators, and were measured on a 5-point Likert scale. In this regard, table 1 presents a summary of the constructs that have been used in this study.

Table 1: Description of Constructs

| Constructs | Type of measurement model | Number of indicators | Study |
|------------------------------|---------------------------|----------------------|--------------------------------|
| Demographics | two categories | 6 | - |
| Customer Orientation | factor (Mode A) | 6 | Webb et al., 2000 |
| Competitor Orientation | factor (Mode A) | 2 | Webb et al., 2000 |
| Interfunctional Coordination | factor (Mode A) | 3 | Webb et al., 2000 |
| Purchase Intention | factor (Mode A) | 4 | Dodds, Monroe, & Grewal (1991) |
| Brand Image | factor (Mode A) | 13 | Kim & Kim (2005) |
| Brand Loyalty | factor (Mode A) | 5 | Kim & Kim (2005) |

3.1. Descriptive Statistics

Table 2 shows the demographic distribution of the data, in the form of gender and income, as mentioned below.

Table 2: Demographic Details

| Category | Group | Freq | % |
|----------|---------------------|------|-------|
| Gender | Male | 27 | 6.54 |
| | Female | 386 | 93.46 |
| Income | < 360,000 | 32 | 7.75 |
| | 360,001 - 720,000 | 117 | 28.33 |
| | 720,001 - 1200,000 | 118 | 28.57 |
| | 1200,001 - 2400,000 | 146 | 35.35 |

**all income level indicated in PKR*

The female gender seems to be dominant in the purchase of gold, with 386 responses were of women, while there were only 27 male respondents. In the income category, 32 respondents fell in the range of "less than 360000 PKR per year". While, 117 respondents fell in the income range of "360,001 PKR - 720,000 PKR", 118 respondents belonged to the income range of "720,001 PKR - 1,200,000 PKR", and finally, 146

respondents belonged to an income range of “1,200, 001 PKR – 2,400, 000”, respectively.

4. Data Analysis and Results

When taking the results in account, the variance-based SEM or PLS is a structural equation modeling technique that is similar to covariance-based SEM (CB-SEM), as applied in LISREL (Joreskog, 1978), EQS (Bentler, 1985), or AMOS (Arbuckle, 1995; 1989). However, PLS-SEM allows researchers to investigate the inter-relationship between the latent and observed variables, that too without imposing any data distribution assumptions. Furthermore, under the PLS approach, researchers are able to estimate the complex causal relationships, by testing the models with latent constructs (Hair, Risher, Sarstedt, & Ringle, 2018). The PLS can simultaneously test the structural model (association between constructs) (Barclay et al., 1995; Hulland, 1999) and the measurement model (association between predictors and their outcomes) as well. Following the literature, we have therefore used the variance-based structural equation modeling, in order to perform the measurement and structural model testing in ADANCO 2.0.1.

4.1. Findings

4.1.1. PLS Measurement Model Results

The two main facets of the measurement model have been calculated to get access to the reflective indicators i.e. convergent validity and discriminant validity (Gefen, Straub, & Boudreau, 2000), and reliability (Fornell, 1982). In this regard, Table 3 shows the reliability (Jöreskog's rho and Cronbach's alpha), convergent validity (AVE), and the discriminant validity (HTMT), as mentioned below.

Table 3: Validity and Reliability Results

| Variable | Jöreskog's rho (ρ_c) | Cronbach's alpha (α) | AVE | HTMT |
|------------------------|-----------------------------|-------------------------------|--------|-------|
| Customer Orientation | 0.9855 | 0.9859 | 0.9347 | < .85 |
| Competitor Orientation | 0.9073 | 0.8783 | 0.6205 | < .85 |
| Interfunctional Coord | 0.907 | 0.8707 | 0.6623 | < .85 |
| Purchase Intention | 0.9047 | 0.8596 | 0.704 | < .85 |
| Brand Image | 0.9815 | 0.9792 | 0.8045 | < .85 |
| Brand Loyalty | 0.8841 | 0.8366 | 0.6046 | < .85 |

The reliability and convergent validity of the all the constructs (customer orientation, competitor orientation, intrafunctional coordination, purchase intention, brand image and brand loyalty) have been evaluated by checking the Jöreskog's rho, average variance extracted (AVE), and the Heterotrait-Monotrait Ratio of Correlation (HTMT) (Dijkstra & Henseler, 2015; Henseler, Hubona, & Ray, 2016). A Jöreskog's rho value that is greater than 0.70 means that the construct scores are reliable (Henseler et al., 2016; Nunnally & Bernstein, 1994) for all the models. That is to say that, all the constructs' Jöreskog's value happened to be between .884 to .989, suggesting that all the constructs taken into consideration were reliable. Moreover, the AVE value > 0.50 has been considered to be a sufficient degree of convergent validity as well (Hair, Ringle, & Sarstedt, 2011). All constructs' AVE values fell between the ranges of 0.60 to 0.935, which indicates that all the constructs that have been taken into consideration were unidimensional in nature. The objective of taking the discriminant validity assessment into consideration was to ensure the strong associations between a reflective construct, and its own indicators (Hair, Hult, Ringle & Sarstedt, 2016). Meanwhile, in their study, Henseler, Ringle and Sarstedt (2015) indicated that the Fornell-Larcker (1981) criterion, and the examination of cross-loadings approaches are not reliable detectors of the lack of discriminant validity in common research situations. Hence, in order to counter this, we have resorted to the use of the HTMT approach, which was proposed by the above-mentioned authors, for the variance-based and covariance-based SEM. According to Hair, Hult, Ringle and Sarstedt (2016) the HTMT value, observed to be 'significantly' smaller than 1 (i.e. cutoff value of 0.85), expresses that the reflective construct has the strongest relationships with its own indicators, in comparison with any other construct. In the case of all four models, the HTMT values were at a cutoff value of $< .85$, which fulfilled the requirements of discriminant validity that is present between the constructs.

4.1.2. PLS Structured Model Results

We performed the correlation analysis initially, in order to find the relationships that exist between all the constructs. In this regard, Table 4, showing the correlation matrix, is displaying the relationship between the individual constructs, as mentioned below.

Table 4: Correlation Results

| Variable | Customer Orientation | Competitor Orientation | Interfunctional Coordination | Purchase Intention | Brand Image | Brand Loyalty |
|------------------------------|----------------------|------------------------|------------------------------|--------------------|-------------|---------------|
| Customer Orientation | 1 | | | | | |
| Competitor Orientation | 0.275 | 1 | | | | |
| Interfunctional Coordination | 0.492 | 0.522 | 1 | | | |
| Purchase Intention | 0.505 | 0.57 | 0.696 | 1 | | |
| Brand Image | 0.366 | 0.497 | 0.565 | 0.194 | 1 | |
| Brand Loyalty | 0.349 | 0.416 | 0.493 | 0.607 | 0.48 | 1 |

**all results were significant = $p < .05$*

As seen in the table, all the results are significant, and suitable for further analysis. Furthermore, we also examined the overall explanatory power of the structural model, and the amount of variance, as explained by the predictors over dependent variable, and the magnitude and strength of its paths.

The Standardized Root Mean Square Residual (SRMR) was used, in order to measure the goodness of fit. This measure aids in further evaluating the inconsistency between the model-implied correlation matrix, and the correlation matrix (Henseler et al., 2015). For this purpose, Table 5 illustrates the confirmatory composite analysis (SRMR), and the structural model analysis (t value, adjusted R^2 and path coefficients). A SRMR value < 0.08 depicts the goodness of fit (Hu & Bentler, 1999). Moreover, SRMR values pertaining to model 1 = .0751, model 2 = .076, model 3 = .0761, and model 4 = .061, were also deemed to be appropriate for the model fit. According to Hosmer, Lemeshow and Sturdivant (2013), the adjusted r^2 indicates the strength of impact of the prior variable(s), on the consequent variable. Here, it is important to note that the strength and direction of the main path coefficients cannot be adequately interpreted, without considering the influence of the mediating or interacting variables. However, as a basis for comparison, (direct only) model 1 explains 23.22% of the variance in brand loyalty, 42.9% of the variance in purchase intention, and 41.48% of the variance in brand image. Albeit, by including the effects of the mediating variable in model 2 purchase intention, and model 3 brand image, a larger proportion of the respective variances in brand loyalty remain at 31.74%, and 28.52%, respectively. Towards the end, in model 4 both the purchase intention, and brand image, were treated as mediating variables, and hence, the proportion of the variances in brand

loyalty accounted for 31.46%. Cohen, Cohen, West and Aiken (2013) defined path coefficients as the change in the criterion variable for one unit of change, in the predictor variable, while holding other predictors in the model constant. In this context, the Path coefficients (direct effects) of the models are: model 1 = .1075 to .3579, model 2 = .0713 to .3584, model 3 = .0771 to .3303, and model 4 = .0123 to .3578. Moreover, the T-value determines whether there is a statistically significant difference between the means of two independent samples (Fraenkel, Wallen & Hyun, 1993). Usually, the accepted t-value of the parameters obtained is always greater than 1.96 (Hair, Black, Babin, & Anderson, 2010). Therefore, all the models values were more than 1.96 (minimum = 2.224, maximum = 7.303), except those in three constructs of model 4, i.e. customer orientation, competitor orientation and interfunctional coordination, where the t-values came out to be less than 1.96. These values explain that the path coefficient results of these specific constructs were insignificant.

4.1.3. *Mediation Analysis*

For the purpose of this study, we performed three mediation effects of the purchase intention, as mentioned below in table 5, in model 2. Following this, we took into consideration the brand image in model 3, and the purchase intention and brand image in model 4. These were taken into account, so as to study the relationship between the three independent variables, i.e., the customer, competitor and the interfunctional orientation, and the dependent variable, i.e., brand loyalty.

Table 5: Path and Mediation Analyses

| Model | SRMR | R2 | Effect | Standard bootstrap - Direct effects | | | | Standard bootstrap - Indirect effects | | | | Standard bootstrap - Total effects | | | | | | | |
|-------|-------|------|---|-------------------------------------|--------|--------|---------|---------------------------------------|--------|--------|---------|------------------------------------|--------|--------|---------|--------|--------|--------|--------|
| | | | | β | Mean | SE | t-value | β | Mean | SE | t-value | β | Mean | SE | t-value | | | | |
| 1 | 0.075 | 0.23 | Customer Orient -> Brand Loyalty | 0.1164 | 0.1156 | 0.0515 | 2.2593 | | | | | | | | | | | | |
| | | | Competitor Orient -> Brand Loyalty | 0.1769 | 0.1820 | 0.0537 | 3.2924 | | | | | | | | | | | | |
| | | | Interfunctional Coord -> Brand Loyalty | 0.2884 | 0.2883 | 0.0565 | 5.1084 | | | | | | | | | | | | |
| | | | Customer Orient -> Purchase Intention | 0.1533 | 0.1518 | 0.0471 | 3.2513 | | | | | | | | | | | | |
| | | | Competitor Orient -> Purchase Intention | 0.2808 | 0.2806 | 0.0475 | 5.9088 | | | | | | | | | | | | |
| | | | Interfunctional Coord -> Purchase Intention | 0.3579 | 0.3612 | 0.0494 | 7.2386 | | | | | | | | | | | | |
| | | | Customer Orient -> Brand Image | 0.1075 | 0.1089 | 0.0487 | 2.2046 | | | | | | | | | | | | |
| | | | Competitor Orient -> Brand Image | 0.3293 | 0.3296 | 0.0506 | 6.5028 | | | | | | | | | | | | |
| | | | Interfunctional Coord -> Brand Image | 0.3322 | 0.3324 | 0.0485 | 6.8423 | | | | | | | | | | | | |
| | | | Customer Orient -> Brand Loyalty | 0.0713 | 0.0702 | 0.0527 | 1.3522 | 0.0429 | 0.0427 | 0.0169 | 2.5433 | 0.1143 | 0.1129 | 0.0532 | 2.1467 | | | | |
| 2 | 0.076 | 0.32 | Competitor Orient -> Brand Loyalty | 0.0935 | 0.0942 | 0.0575 | 1.6261 | 0.0800 | 0.0804 | 0.0237 | 3.3752 | 0.1734 | 0.1746 | 0.0533 | 3.2551 | | | | |
| | | | Interfunctional Coord -> Brand Loyalty | 0.1908 | 0.1949 | 0.0599 | 3.1846 | 0.1017 | 0.1006 | 0.0269 | 3.7820 | 0.2925 | 0.2955 | 0.0562 | 5.2023 | | | | |
| | | | Customer Orient -> Purchase Intention | 0.1513 | 0.1514 | 0.0471 | 3.2147 | | | | | | | | | 0.1513 | 0.1514 | 0.0471 | 3.2147 |
| | | | Competitor Orient -> Purchase Intention | 0.2818 | 0.2842 | 0.0478 | 5.8946 | | | | | | | | | 0.2818 | 0.2842 | 0.0478 | 5.8946 |
| | | | Interfunctional Coord -> Purchase Intention | 0.3584 | 0.3574 | 0.0495 | 7.2388 | | | | | | | | | 0.3584 | 0.3574 | 0.0495 | 7.2388 |
| | | | Purchase Intention -> Brand Loyalty | 0.2838 | 0.2817 | 0.0639 | 4.4439 | | | | | | | | | 0.2838 | 0.2817 | 0.0639 | 4.4439 |

Table 5: Path and Mediation Analyses (Contd.)

| Model | SRMR | R2 | Effect | Standard bootstrap - Direct effects | | | | Standard bootstrap - Indirect effects | | | | Standard bootstrap - Total effects | | | |
|-------|-------|------|---|-------------------------------------|--------|--------|---------|---------------------------------------|--------|--------|---------|------------------------------------|--------|--------|---------|
| | | | | β | Mean | SE | t-value | β | Mean | SE | t-value | β | Mean | SE | t-value |
| 3 | 0.076 | 0.29 | Customer Orient -> Brand Loyalty | 0.0814 | 0.0810 | 0.0526 | 1.5468 | 0.0338 | 0.0328 | 0.0162 | 2.0915 | 0.1153 | 0.1138 | 0.0570 | 2.0224 |
| | | | Competitor Orient -> Brand Loyalty | 0.0771 | 0.0780 | 0.0544 | 1.4169 | 0.1030 | 0.1014 | 0.0265 | 3.8923 | 0.1801 | 0.1794 | 0.0553 | 3.2550 |
| | | | Interfunctional Coord -> Brand Loyalty | 0.1839 | 0.1882 | 0.0606 | 3.0348 | 0.1036 | 0.1024 | 0.0233 | 4.4451 | 0.2875 | 0.2906 | 0.0570 | 5.0423 |
| | | | Customer Orient -> Brand Image | 0.1085 | 0.1070 | 0.0485 | 2.2373 | | | | | 0.1085 | 0.1070 | 0.0485 | 2.2373 |
| | | | Competitor Orient -> Brand Image | 0.3303 | 0.3287 | 0.0520 | 6.3491 | | | | | 0.3303 | 0.3287 | 0.0520 | 6.3491 |
| | | | Interfunctional Coord -> Brand Image | 0.3322 | 0.3348 | 0.0507 | 6.5470 | | | | | 0.3322 | 0.3348 | 0.0507 | 6.5470 |
| | | | Brand Image -> Brand Loyalty | 0.3119 | 0.3068 | 0.0562 | 5.5490 | | | | | 0.3119 | 0.3068 | 0.0562 | 5.5490 |
| | | | Customer Orient -> Brand Loyalty | 0.0465 | 0.0453 | 0.0480 | 0.9687 | 0.0681 | 0.0685 | 0.0225 | 3.0214 | 0.1146 | 0.1139 | 0.0514 | 2.2303 |
| | | | Competitor Orient -> Brand Loyalty | 0.0123 | 0.0158 | 0.0559 | 0.2206 | 0.1616 | 0.1630 | 0.0315 | 5.1292 | 0.1740 | 0.1788 | 0.0538 | 3.2363 |
| | | | Interfunctional Coord -> Brand Loyalty | 0.1105 | 0.1088 | 0.0609 | 1.8136 | 0.1814 | 0.1825 | 0.0306 | 5.9224 | 0.2919 | 0.2913 | 0.0562 | 5.1912 |
| 4 | 0.061 | 0.32 | Customer Orient -> Purchase Intention | 0.1534 | 0.1521 | 0.0470 | 3.2609 | | | | | 0.1534 | 0.1521 | 0.0470 | 3.2609 |
| | | | Competitor Orient -> Purchase Intention | 0.2805 | 0.2803 | 0.0475 | 5.9027 | | | | | 0.2805 | 0.2803 | 0.0475 | 5.9027 |
| | | | Interfunctional Coord -> Purchase Intention | 0.3578 | 0.3610 | 0.0494 | 7.2403 | | | | | 0.3578 | 0.3610 | 0.0494 | 7.2403 |
| | | | Customer Orient -> Brand Image | 0.1078 | 0.1093 | 0.0488 | 2.2107 | | | | | 0.1078 | 0.1093 | 0.0488 | 2.2107 |
| | | | Competitor Orient -> Brand Image | 0.3291 | 0.3294 | 0.0507 | 6.4950 | | | | | 0.3291 | 0.3294 | 0.0507 | 6.4950 |
| | | | Interfunctional Coord -> Brand Image | 0.3318 | 0.3320 | 0.0486 | 6.8299 | | | | | 0.3318 | 0.3320 | 0.0486 | 6.8299 |
| | | | Purchase Intention -> Brand Loyalty | 0.2455 | 0.2476 | 0.0635 | 3.8636 | | | | | 0.2455 | 0.2476 | 0.0635 | 3.8636 |
| | | | Brand Image -> Brand Loyalty | 0.2819 | 0.2818 | 0.0553 | 5.0941 | | | | | 0.2819 | 0.2818 | 0.0553 | 5.0941 |

Table 5: Path and Mediation Analyses (Contd.)

| Model | SRMR | R ² | Effect | Standard bootstrap - Direct effects | | | | | Standard bootstrap - Indirect effects | | | | | Standard bootstrap - Total effects | | | | |
|-------|-------|----------------|---|-------------------------------------|--------|--------|---------|---------|---------------------------------------|--------|---------|---------|--------|------------------------------------|---------|--|--|--|
| | | | | β | Mean | SE | t-value | β | Mean | SE | t-value | β | Mean | SE | t-value | | | |
| 2 | 0.076 | 0.32 | Customer Orient -> Brand Loyalty | 0.0713 | 0.0702 | 0.0527 | 1.3522 | 0.0429 | 0.0427 | 0.0169 | 2.5433 | 0.1143 | 0.1129 | 0.0532 | 2.1467 | | | |
| | | | Competitor Orient -> Brand Loyalty | 0.0935 | 0.0942 | 0.0575 | 1.6261 | 0.0800 | 0.0804 | 0.0237 | 3.3752 | 0.1734 | 0.1746 | 0.0533 | 3.2551 | | | |
| | | | Interfunctional Coord -> Brand Loyalty | 0.1908 | 0.1949 | 0.0599 | 3.1846 | 0.1017 | 0.1006 | 0.0269 | 3.7820 | 0.2925 | 0.2955 | 0.0562 | 5.2023 | | | |
| | | | Customer Orient -> Purchase Intention | 0.1513 | 0.1514 | 0.0471 | 3.2147 | | | | | 0.1513 | 0.1514 | 0.0471 | 3.2147 | | | |
| | | | Competitor Orient -> Purchase Intention | 0.2818 | 0.2842 | 0.0478 | 5.8946 | | | | | 0.2818 | 0.2842 | 0.0478 | 5.8946 | | | |
| | | | Interfunctional Coord -> Purchase Intention | 0.3584 | 0.3574 | 0.0495 | 7.2388 | | | | | 0.3584 | 0.3574 | 0.0495 | 7.2388 | | | |
| | | | Purchase Intention -> Brand Loyalty | 0.2838 | 0.2817 | 0.0639 | 4.4439 | | | | | 0.2838 | 0.2817 | 0.0639 | 4.4439 | | | |
| | | | Customer Orient -> Brand Loyalty | 0.0814 | 0.0810 | 0.0526 | 1.5468 | 0.0338 | 0.0328 | 0.0162 | 2.0915 | 0.1153 | 0.1138 | 0.0570 | 2.0224 | | | |
| | | | Competitor Orient -> Brand Loyalty | 0.0771 | 0.0780 | 0.0544 | 1.4169 | 0.1030 | 0.1014 | 0.0265 | 3.8923 | 0.1801 | 0.1794 | 0.0553 | 3.2550 | | | |
| | | | Interfunctional Coord -> Brand Loyalty | 0.1839 | 0.1882 | 0.0606 | 3.0348 | 0.1036 | 0.1024 | 0.0233 | 4.4451 | 0.2875 | 0.2906 | 0.0570 | 5.0423 | | | |
| 3 | 0.076 | 0.29 | Customer Orient -> Brand Image | 0.1085 | 0.1070 | 0.0485 | 2.2373 | | | | | 0.1085 | 0.1070 | 0.0485 | 2.2373 | | | |
| | | | Competitor Orient -> Brand Image | 0.3303 | 0.3287 | 0.0520 | 6.3491 | | | | | 0.3303 | 0.3287 | 0.0520 | 6.3491 | | | |
| | | | Interfunctional Coord -> Brand Image | 0.3322 | 0.3348 | 0.0507 | 6.5470 | | | | | 0.3322 | 0.3348 | 0.0507 | 6.5470 | | | |
| | | | Brand Image -> Brand Loyalty | 0.3119 | 0.3068 | 0.0562 | 5.5490 | | | | | 0.3119 | 0.3068 | 0.0562 | 5.5490 | | | |

Table 5: Path and Mediation Analyses (Contd.)

| Model | SRMR | R2 | Effect | Standard bootstrap - Direct effects | | | Standard bootstrap - Indirect effects | | | Standard bootstrap - Total effects | | | | |
|-------|-------|------|---|-------------------------------------|--------|---------|---------------------------------------|--------|---------|------------------------------------|--------|---------|--------|--------|
| | | | | β | SE | t-value | β | SE | t-value | β | SE | t-value | | |
| 4 | 0.061 | | Customer Orient -> Brand Loyalty | 0.0465 | 0.0453 | 0.9687 | 0.0681 | 0.0225 | 3.0214 | 0.1146 | 0.1139 | 0.0514 | 2.2303 | |
| | | | Competitor Orient -> Brand Loyalty | 0.0123 | 0.0158 | 0.2206 | 0.1616 | 0.0315 | 5.1292 | 0.1740 | 0.1788 | 0.0538 | 3.2363 | |
| | | | Interfunctional Coord -> Brand Loyalty | 0.1105 | 0.1088 | 0.0609 | 1.8136 | 0.1814 | 0.0306 | 5.9224 | 0.2919 | 0.2913 | 0.0562 | 5.1912 |
| | | 0.32 | Customer Orient -> Purchase Intention | 0.1534 | 0.1521 | 0.0470 | 3.2609 | | | 0.1534 | 0.1521 | 0.0470 | 3.2609 | |
| | | | Competitor Orient -> Purchase Intention | 0.2805 | 0.2803 | 0.0475 | 5.9027 | | | 0.2805 | 0.2803 | 0.0475 | 5.9027 | |
| | | | Interfunctional Coord -> Purchase Intention | 0.3578 | 0.3610 | 0.0494 | 7.2403 | | | 0.3578 | 0.3610 | 0.0494 | 7.2403 | |
| | | | Customer Orient -> Brand Image | 0.1078 | 0.1093 | 0.0488 | 2.2107 | | | 0.1078 | 0.1093 | 0.0488 | 2.2107 | |
| | | | Competitor Orient -> Brand Image | 0.3291 | 0.3294 | 0.0507 | 6.4950 | | | 0.3291 | 0.3294 | 0.0507 | 6.4950 | |
| | | | Interfunctional Coord -> Brand Image | 0.3318 | 0.3320 | 0.0486 | 6.8299 | | | 0.3318 | 0.3320 | 0.0486 | 6.8299 | |
| | | | Purchase Intention -> Brand Loyalty | 0.2455 | 0.2476 | 0.0635 | 3.8636 | | | 0.2455 | 0.2476 | 0.0635 | 3.8636 | |
| | | | Brand Image -> Brand Loyalty | 0.2819 | 0.2818 | 0.0553 | 5.0941 | | | 0.2819 | 0.2818 | 0.0553 | 5.0941 | |

As the significance of the indirect effect is established, the strength of the mediator can be examined through the use of the total effect and variance account for (VAF) (Wong, 2016). In this regard, according to Hair et al. (2015) if VAF is at a < 0.2 threshold level, it represents no mediation, while the $> 0.2 - < 0.8$ threshold level explains the partial mediation, and the > 0.8 threshold level signifies full mediation. Barron and Kenny (1986) stated that the evidence for full mediation is at its strongest, when there is a significant indirect effect, but no significant direct effect. Furthermore, the results of model 2 show that the customer orientation, and competitor orientation have been found to be insignificant after the inclusion of the mediator, which suggests a full mediation effect. Hence, in this regard, the interfunctional coordination remains significant, while the β value .1908 (direct effect), and .2925 (total effect) come into effect in the presence of the mediator. However, the interfunctional coordination value of .35 denotes the effect on brand loyalty, as explained via the purchase intention mediator, while the magnitude is considered to be at a partial mediation. Model 3 demonstrates that the customer orientation, and competitor orientation effects are established to be insignificant after the inclusion of the mediator, which explains the full mediation effect. Hereafter, the interfunctional coordination remains significant, while the β value .1839 (direct effect) and .2875 (total effect), come into effect in the presence of the mediator. However, the interfunctional coordination value of .36 leaves an effect on brand loyalty, and can be explained via the brand image mediator, while the magnitude is considered to be the partial mediation. In the case of model 4, the two mediators, that is the purchase intention and brand image, have been included in the model. All the three independent variables' direct effect emerges to be insignificant in nature, which explains the full mediation effect.

5. Discussion and Conclusions

Research outcomes showed that the hypothesized relationships between the customer-defined market orientation (i.e. the customer orientation, competitor orientation and interfunctional orientation) the purchase intention (H1_a, H1_b, H1_c), customer-defined market orientation and brand image (H2_a, H2_b, H2_c), and the customer-defined market orientation and brand loyalty (H3_c, H3c, H3c), were supported with significant statistical results. Our results also supported the findings that have been made by previous researchers (Dehghaniand & Tumer, 2015). These findings imply that taking regular measures, and maintaining effective coordination in the jewelry business creates customer value. Moreover, the knowledge and understanding of competition, tends to

positively affect the customers' purchase intentions as well (Lee & Shin, 2010). The results also supported the fully mediating role of the purchase intention and the brand image between the customer-defined market orientation and the brand loyalty (H4_a, H4_b, H4_d, H4_e, H5_a, H5_b, and H5_c). However, on the other hand, the results did not support the mediating effects of brand image on the interfunctional coordination and brand loyalty (H4_c), and also the mediating effects of brand image on the association between the interfunctional coordination on brand loyalty (H4_f). These results imply that the physical environment and sales characteristics of the jeweler, which reflect the brand's image, may not facilitates the interfunctional coordination and brand loyalty. Since gold is a high end product, therefore, the customers for it are sensitive after purchase, and any misunderstanding or mishap in commitment may compromise their loyalty towards a particular brand.

We also found that both the purchase intention and the brand image were equally strong mediators between customer orientation and competitor orientation that is related to brand loyalty. One possible explanation for this finding is that the customer orientation, and the competitor orientation tends to build a perception and image in the minds of the customers. Once this is achieved, then the purchase intention and the brand image tend to outcast the impact of the customer orientation and the competitor orientation. Conversely, we have also established that both the purchase intention and the brand image were partially mediating the impact of customer orientation and competitor orientation on brand loyalty. The potential clarification for this finding is that interfunctional coordination is all about internal marketing. Gold jewelry firms tend to do better with it, particularly when they achieve the coordination between purchase intention or brand image, or both purchase intention and brand image in parallel.

Overall, a valid gold jewelry brand loyalty model has also been presented in this study. The model offered insights into indirect effects of customer-defined market orientation on brand loyalty in the presence of brand image and purchase intention. These findings were in line with the theories suggested by Naiver and Slater (1990), Porter (1980), and Scherer and Ross (1990), who posited that customer orientation, competitor orientation, and interfunctional coordination can affect business performance.

5.1. Practical Implications

Our findings have several practical implications for gold jewelry businesses and business owners. First and foremost, our results suggest that customer orientation, competitor orientation and interfunctional coordination influence brand loyalty, purchase image and brand image. Therefore, it is important for organizations to beware that the interfunctional coordination has a larger influence on brand loyalty, purchase image and brand image. Hence, the managers of gold jewelry businesses have placed more efforts in the internal business functions, as compared to the customer orientation and competitor orientation. Meanwhile, in order to foster a customer orientation and competitor orientation, managers should endeavor the customer first approach, and reassess their strengths and weaknesses.

Additionally, it is important for gold jewelry businesses to also be aware about the finding that the purchase intention and the brand image are better positioned as mediating variables (individual and together). This can be beneficial for creating brand loyalty, particularly when customer orientation and competitor orientation operationalize efficiently. A related but distinct implication of our findings is that the purchase intention has incremental utility, above and beyond that of the brand image. Thus, when managers are faced with decisions about where to put more efforts and resources, an appropriate choice would be to place priority on the increasing purchase intentions, in order to enhance the brand loyalty (Ajzen & Driver, 1992). Once the customer orientation, and competitor orientation approaches adopted by gold jeweler businesses are meritoriously implemented, the interfunctional coordination enhances the brand loyalty with the purchase intention and brand image. Therefore, the results of this study answer questions about the relationship between the purchase intention and the brand image, as mediators with the market orientation sub constructs on brand loyalty that previous studies lack. In this regard, we hope that future researchers will continue to examine these variables, in order to further explain the interrelationships, processes, and outcomes related to both the purchase intention and the brand image.

If a firm is willing to develop a competitive advantage in the industry, it should create a brand image that symbolizes the consumption of products. Thus, due to this, the brands become a medium of continuing interaction between the firm and its consumers.

5.2. *Limitations and Future Directions*

The findings of this study are limited to the gold market of Karachi, Pakistan. Hence, we propose that the future researchers may extend the study to other cities as well. One of the limitation faced in the study was the direct interaction with gold customers. Therefore a viable method may be developed, in order to approach gold customers for their valuable input in a direct manner. Other than this, a few relevant moderating variables may also be put to test, with the proposed model which may enhance its explanatory power as well. Furthermore, in order to examine the consistency of the customer loyalty, a longitudinal study may also be conducted in the future. Another avenue for future research could also be an investigation of the comparative study between Pakistan and its neighboring countries, which primarily share the same cultural values i.e. Bangladesh and India. This is an important step in determining whether individuals of neighboring countries share similar behavioral dimensions towards luxury products, such as Gold jewelry. The implication of the given magnitude of the results, other stakeholders' opinions, and their respective responses may add pivotal value for the businesses.

References

- Aaker, D. A., & Keller, K. L. (1990). Consumer evaluations of brand extensions. *Journal of Marketing*, 54(1), 27-42.
- Adam, M., & Tabrani, M. (2016). The Impact of Market Orientation, Brand Image and Internal Marketing on Brand Orientation and Strengthening Br. In *Proceedings of International Academic Conferences No. 4106682; Proceedings of International Academic Conferences*. International Institute of Social and Economic Sciences. Retrieved from <https://ideas.repec.org/p/sek/iacpro/4106682.html>
- Aghekyan-Simonian, M., Forsythe, S., Kwon, W. S., & Chattaraman, V. (2012). The role of product brand image and online store image on perceived risks and online purchase intentions for apparel. *Journal of Retailing and Consumer Services*, 19(3), 325-331.
- Ajzen, I., & Driver, B. L. (1992). Application of the theory of planned behavior to leisure choice. *Journal of Leisure Research*, 24(3), 207.
- Akbarov, S. (2018). Market orientation and customer point of view – In the case of Azerbaijan. *Scholedge International Journal of Multidisciplinary & Applied Studies*, 5(6), 58-67. Doi:10.19085/journal.sijmas050601
- Anderson, K. C., Knight, D. K., Pookulangara, S., & Josiam, B. (2014). Influence of hedonic and utilitarian motivations on retailer loyalty and purchase intention: a Facebook perspective. *Journal of Retailing and Consumer Services*, 21(5), 773-779.
- Arbuckle, J. L. (1989). AMOS: Analysis of moment structures; software review. *American Statistician*, 43, 66-67.
- Arbuckle, J. L. (1995). *Amos for Windows: Analysis of moment structures (version 3.5)*. Chicago, IL: Smallwaters
- Atuahene-Gima, K. (1996). Market orientation and innovation. *Journal of Business Research*, 35(2), 93-103.
- Baker, W. E., & Sinkula, J. M. (1999). The synergistic effect of market orientation and learning orientation on organizational performance. *Journal of the Academy of Marketing Science*, 27(4), 411-427.

- Baldinger, A. L., & Rubinson, J. (1996). Brand loyalty: the link between attitude and behavior. *Journal of Advertising Research*, 36(6), 22-35.
- Barclay, M. J., Smith, C. W., & Watts, R. L. (1995). The determinants of corporate leverage and dividend policies. *Journal of applied corporate finance*, 7(4), 4-19.
- Barron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychology research: Conceptual, strategic, and statistical consideration. *Journal of Personality and Social Psychology*, 51(6), 1173-1182
- Bentler, P. M. (1985). Theory and implementation of EQS: A structural equations program [Computer software]. United Kingdom: Routledge. BMDP Statistical Software.
- Cano, C. R., Carrillat, F. A., & Jaramillo, F. (2004). A meta-analysis of the relationship between market orientation and business performance: Evidence from five continents. *International Journal of Research in Marketing*, 21(2), 179–200. <https://doi.org/10.1016/j.ijresmar.2003.07.001>
- Chandon, P., Morwitz, V. G., & Reinartz, W. J. (2005). Do intentions really predict behavior? Self-generated validity effects in survey research. *Journal of Marketing*, 69(2), 1-14.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. United Kingdom: Routledge.
- Coley, L. S., Mentzer, J. T., & Cooper, M. C. (2010). Is “Consumer Orientation” A Dimension Of Market Orientation In Consumer Markets? *Journal of Marketing Theory and Practice*, 18(2), 141–154. JSTOR.
- Danziger, P. N. (2005). *Let them eat cake: Marketing luxury to the masses-as well as the classes*. Chicago, IL: Dearborn Trade Pub.
- Dehghani, M., & Tumer, M. (2015). A research on effectiveness of Facebook advertising on enhancing purchase intention of consumers. *Computers in Human Behavior*, 49, 597-600.

- Dijkstra, T. K., & Henseler, J. (2015). Consistent and asymptotically normal PLS estimators for linear structural equations. *Computational Statistics & Data Analysis*, 81(1), 10-23.
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3), 307-319.
- Duncan, T. R., & Moriarty, S. E. (1997). *Driving brand value: Using integrated marketing to manage profitable stakeholder relationships*. IL, USA: Irwin Professional Publishing.
- Esch, F. R., Langner, T., Schmitt, B. H., & Geus, P. (2006). Are brands forever? How brand knowledge and relationships affect current and future purchases. *Journal of Product & Brand Management*, 15(2), 98-105.
- Fornell, C. (1982). *A second generation of multivariate analysis*. New York, NY: Praeger Publishers.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Foss, B., & Stone, M. (2001). *Successful customer relationship marketing: new thinking, new strategies, new tools for getting closer to your customers*. Kogan Page Publishers.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (1993). *How to design and evaluate research in education (Vol. 7)*. New York, NY: McGraw-Hill.
- Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, 4(1), 7.
- Government of Pakistan (2013). *Pakistan Economic Survey 2012-13*. Government of Pakistan: Economic Advisers Wing, Ministry of Finance. Islamabad, Pakistan. Retrieved from <http://121.52.153.178:8080/xmlui/bitstream/handle/123456789/6560/Pakistan%20Economic%20Survey%202012-13.pdf?sequence=3&isAllowed=y>

- Hair J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. California, USA: Sage Publications.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis (7th ed.)*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2018). When to use and how to report the results of PLS-SEM. *European Business Review*. Doi: 10.1108/ebr-11-2018-0203
- Haq, S. (2016). Pakistan's booming retail sector. *The Express Tribune*. Retrieved from <https://tribune.com.pk/story/1092296/mall-culture-pakistans-booming-retail-sector/>
- Haque, A., Anwar, N., Yasmin, F., Sarwar, A., Ibrahim, Z., & Momen, A. (2015). Purchase intention of foreign products: A study on Bangladeshi consumer perspective. *Sage Open*, 1-12. Doi: 10.1177/2158244015592680
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408-420.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. NY, USA: Guilford Publications.
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial Management & Data Systems*, 116(1), 2-20.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.

- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135.
- Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied Logistic Regression (Vol. 398)*. NY, USA: John Wiley & Sons.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), 195-204.
- Idenedo, O. W., & Ebebuwa, A. (2019). Market Orientation and Customer Loyalty of Deposit Money Banks in Port Harcourt. *International Journal of Marketing and Commercial Studies*, 7(2), 1–11.
- Javalgi, R. G., Martin, C. L., & Young, R. B. (2006). Marketing research, market orientation and customer relationship management: A framework and implications for service providers. *Journal of Services Marketing*, 20(1), 12–23. Doi: 10.1108/08876040610646545
- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: antecedents and consequences. *The Journal of Marketing*, 57(3), 53-70.
- Johnson, M.D., Gustafsson, A., Andreassen, T.W., Lervik, L., & Cha, J. (2001). The evolution and future of national customer satisfaction index models. *Journal of Economic Psychology*, 22(2), 217 –245.
- Jöreskog, K. G. (1978). Structural analysis of covariance and correlation matrices. *Psychometrika*, 43(4), 443-477.
- Juntunen, M., Juntunen, J., & Juga, J. (2011). Corporate brand equity and loyalty in B2B markets: A study among logistics service purchasers. *Journal of Brand Management*, 18(4-5), 300-311.
- Kennedy, K. N., Lassk, F. G., & Goolsby, J. R. (2002). Customer mind-set of employees throughout the organization. *Journal of the Academy of Marketing Science*, 30(2), 159-171.

- Kim, H. B., & Kim, W. G. (2005). The relationship between brand equity and firms' performance in luxury hotels and chain restaurants. *Tourism Management, 26*(4), 549-560.
- King, R. C., Schilhavy, R. A., Chowa, C., & Chin, W. W. (2016). Do customers identify with our website? the effects of website identification on repeat purchase intention. *International Journal of Electronic Commerce, 20*(3), 319-354.
- Kotler, P., & Armstrong, G. (1991). *Principles of Marketing*, Engelwood Cliffs. NJ, Prentice Hall, 1994, 79-80.
- Lee, K. H., & Shin, D. (2010). Consumers' responses to CSR activities: The linkage between increased awareness and purchase intention. *Public Relations Review, 36*(2), 193-195.
- Liu, M. T., Wong, I. A., Tseng, T. H., Chang, A. W. Y., & Phau, I. (2017). Applying consumer-based brand equity in luxury hotel branding. *Journal of Business Research, 81*, 192-202.
- Maydeu-Olivares, A., & Lado, N. (2003). Market orientation and business economic performance: A mediated model. *International Journal of Service Industry Management, 14*(3), 284-309. Doi: 10.1108/09564230310478837
- McNaughton, R. B., Osborne, P., & Imrie, B. C. (2002). Market-oriented value creation in service firms. *European Journal of Marketing, 36*(9/10), 990-1002.
- Mirabi, V., Akbariyeh, H., & Tahmasebifard, H. (2015). A study of factors affecting on customers purchase intention case study: The Agencies of Bono Brand Tile in Tehran. *Journal of Multidisciplinary Engineering Science and Technology (JMEST), 2*(1), 267-273.
- Mittal, V., Ross, W. T., & Baldasare, P. M. (1998). The asymmetric impact of negative and positive attribute-level performance on overall satisfaction and repurchase intentions. *Journal of Marketing, 62*(1), 33-47.
- Nandan, S. (2005). An exploration of the brand identity-brand image linkage: A communications perspective. *Journal of Brand Management, 12*, 264-278. Doi:10.1057/palgrave.bm.2540222

- Narver, J. C. and Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, 54(4), 20-35.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill, Inc.
- Oliver, R. L. (1997). *Satisfaction: A behavioural perspective on the consumer*. New York, NY: McGraw-Hill.
- Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing*, 63(6), 33-44.
- Opdyke, J. (2010). Rethinking Gold: What if it isn't a commodity after all?, *The Wall Street Journal*. Retrieved from http://online.wsj.com/article/SB10001424052748703908704575433670771742884.html?mod=WSJ_hps_sections_personalfinance#printMode
- Pakistan Gems and Jewellery Development Company. (2020). Gemstone of Pakistan. URL (<https://www.pgjdc.org/gnjdata.php?cId=61>)
- Pitt, L., Caruana, A., & Berthon, P. R. (1996). Market orientation and business performance: some European evidence. *International Marketing Review*, 13(1), 5-18.
- Sahi, G. K., Gupta, M. C., & Lonial, S. C. (2016). Relating strategic market orientation and market performance: role of customer value types. *Journal of Strategic Marketing* 24(4), 1-21.
- Sampaio, C. A. F., Mogollón, J. M. H., & Rodrigues, R. J. de A. G. (2020). The relationship between market orientation, customer loyalty and business performance: A sample from the Western Europe hotel industry. *Tourism and Hospitality Research*, 20(2), 131-143. <https://doi.org/10.1177/1467358419829179>
- Sampaio, C. A., Hernández-Mogollón, J. M., & Rodrigues, R. G. (2019). Assessing the relationship between market orientation and business performance in the hotel industry—the mediating role of service quality. *Journal of Knowledge Management*, 23(4), 644-663.
- Scherer, F. M., & Ross, D. (1990). *Industrial market structure and market performance*. Boston, MA: Houghton Mifflin Company.

- Shaikh, A. (2017). Retail revs up: What happens when customers priorities 'experience' over 'product'. *Aurora: Promoting Excellence in Advertising*. Retrieved from <http://aurora.dawn.com/news/1142025%20>
- Trade Development Authority of Pakistan (2016). *Sectorial competitiveness and value chain analysis: Gem and Jewellery, Ministry of Commerce, Government of Pakistan*. Retrieved from <http://trtapakistan.org/wp-content/uploads/2016/05/Gems-and-Jewelry.pdf>
- Urde, M., Baumgarth, C., & Merrilees, B. (2013). Brand orientation and market orientation—From alternatives to synergy. *Journal of Business Research*, 66(1), 13-20.
- Webb, D., Webster, C., & Kreppa, A. (2000). An exploration of the meaning and outcomes of a customer-defined market orientation. *Journal of Business Research*, 48(2), 101-112.
- Wong, K. K. K. (2016). Mediation analysis, categorical moderation analysis, and higher-order constructs modeling in Partial Least Squares Structural Equation Modeling (PLS-SEM): A B2B Example using SmartPLS. *Marketing Bulletin*, 26(1), 1-22.
- World Bank. (2020). January 2020 Global Economic Prospects: Slow growth, policy challenges. URL (<https://www.worldbank.org/en/news/feature/2020/01/08/january-2020-global-economic-prospects-slow-growth-policy-challenges>)
- Zahid, W. (2017, January 17). 17 predictions for Pakistan's economy in 2017. *The Express Tribune*. Retrieved from <https://tribune.com.pk/story/1297634/17-predictions-pakistans-economy-2017/>

Role of Carroll’s CSR Pyramid in Shaping Consumer Buying Behavior: A Case of Detergent Industry of Pakistan

Haadiyah Yasir*, and Syeda Anna Amjad**

Abstract

The purpose of this paper is to empirically apply the concept of Carroll’s CSR pyramid, on the buying decisions and behaviors of consumers, particularly when selecting a detergent/washing powder in Pakistan. Here, the packaging origin of the detergents’ brand has been used as the moderating variable. In addition to this, the stakeholder theory has been applied where consumers are primarily expected to be well informed of their buying choices. The study essentially comprises of a household, drop-off cross-sectional survey that has been taken by men or women who do groceries. In this regard, four elite areas of Lahore, Pakistan (DHA, Cantonment, Gulberg, and Model Town) were selected, with the assumption that the residents of these areas might be interested in a CSR initiative, taken by their preferred detergent brands. Also, the participants were selected through the convenience sampling technique, and were given 24 hours to fill the survey, at a time of their convenience. Then, the Structural Equation Modeling (SEM) technique was run on the 280 usable questionnaires that had been acquired. The results depicted that the buyers of detergent brands in Pakistan are mostly attracted towards the three levels of the CSR pyramid; the economic level, the ethical level, and the philanthropic level. Moreover, findings also revealed that the packaging origin of the respective detergent brands significantly moderate the relationship between all levels of the CSR pyramid, as well as the consumer buying behavior of detergent brands, except on the legal and economic levels. This research provides insights into the other, locally packaged detergent (and household) brands, which are currently indulging, and are also interested in carrying out CSR activities. These insights may help organizations to reflect upon how, by using different levels of CSR initiatives efficiently, detergent brands can achieve more sales, with their buyers selecting their particular brand over other competing global brands.

Keywords: Corporate social responsibility (CSR), economic level of CSR activity, legal level of CSR activity, ethical level of CSR activity, philanthropic level of CSR activity, consumer buying behavior.

JEL classification: M14, M30, M31.

* Junior Teaching Fellow, Lahore School of Economics, Lahore, Pakistan.

** Assistant Director QEC, Lahore School of Economics, Lahore, Pakistan.

1. Introduction

The concept of Corporate Social Responsibility (CSR) has steadily become a crucial component for companies, in order to attain sustainable growth. This is especially applicable if businesses are operating in a volatile environment, with the active participation of all the relevant stakeholders. Today, the organizations should ideally not exist for the sole purpose of achieving higher returns and long-term well-being. They must also put emphasis on being accountable and responsible towards all the attached stakeholders, and the environment as a whole (Harrison, Rouse, & De Villiers, 2012). In this regard, businesses competing on the role of CSR activities are not able to perceive it as a liability to the company anymore. Rather, they view it as an asset that helps in strengthening exceptional long-term relations with all the stakeholders, especially the consumers. The concept of CSR was first coined in by Archie Carroll, and has been treated as an active area of research. It is normally put forth as an initiative, that represents and reflects all the stakeholders of a company conscientiously, and in a more responsible and effective manner. CSR is a lens through which firms look after, and also reflect upon the ideas that seem attractive to the society, and help them become accountable for their actions.

Conforming to the ideas presented by Carroll (1991), CSR activities are divided into four levels. These include the economic level of CSR activities, legal level of CSR activities, ethical level of CSR activities, and the philanthropic level of CSR activities. The economic level of CSR activities deals with the benefits and rewards that a business should look forward to, while operating in the society. On the other hand, the legal level of CSR activities attends to the businesses ensuring that they follow suit with the laws and legal agreements that have been established for them, as a business. As far as the ethical level of CSR activities are concerned, the businesses try to contribute to the society in a meaningful manner. This is primarily in order to make it a better one, by indulging in activities and initiatives that are constructive for the society as a whole. Lastly, the philanthropic level of CSR activities refers to the intentional, or voluntary behaviors and activities that are highly admirable by the stakeholders, if performed in an effective manner. However, if not executed in the right way, the businesses will be not be judged adversely.

In the present era, because of the active role social media, and other effective tools of communication, stakeholders and consumers alike are well informed of their rights. They are also well aware of the key responsibilities that the businesses owe towards them. All this knowledge

makes it critically significant for the firms to pursue, as well as exploit CSR initiatives. This is primarily be undertaken by bringing forth safe products and services for the consumers, which can further support the societies by lifting up their standards of living in the long run (Eshra & Beshir, 2017). Additionally, according to Gigauri (2012), every business has two major responsibilities; a) to make sure that value and satisfaction is being provided to the stakeholders, and b) societal problems to be solved in a socially responsible manner.

In this regard, several studies have provided evidence of the strong and positive influence of CSR programs on consumers' attitudes and behaviors, for different brands. This influence makes the brands more attractive for the person on the buying end. People firmly believe that buying a brand that is associated with a cause helps them in realizing that they are a) doing good to the society, and b) are forming a perception about a businesses, in terms of how their products are safer to consume (Min, Ai, Choo, Wah, & Yang, 2015; Rahim, Jalaludin, & Tajuddin, 2011; Safi & Ramay, 2013). Moreover, due to the emerging importance of CSR activities, many studies focusing on this context, have been carried out in the Asian region i.e. pertaining to Pakistan, India, Turkey, Nigeria, Egypt, China, and many others. The idea behind these studies has been to study how CSR initiatives impact the consumer intentions, so as to purchase different products belonging to all the different sectors such as cellular companies (Ali, 2011; Saleh, Ebeid, & Abdelhameed 2015; Sarfaz, 2014), FMCG companies (Khan, 2017), generic business organizations (Nochai & Nochai, 2014), livestock (Vahdati et al., 2015), and property companies (Yam, 2013).

A lot of research has already been conducted on the impact of CSR activities on consumer buying patterns, but none of these have targeted the detergents as the key product of the FMCG sector. Particularly, in the case of Pakistan, CSR initiatives are primarily developed by the parent brands. For instance, the company Unilever, and their CSR initiatives are part of their Sustainable Living Plans. In this regard, detergent brands such as Surf Excel and Ariel act as key partners in the campaigns that are initiated by Unilever, as a part of their CSR agenda.

Detergents are a part of the FMCG sector, which means that, as a fast moving consumer good, they are used on a daily basis, that too very commonly, in households. Detergents have been selected in this study, primarily because CSR activities help consumers to recognize and differentiate between brands that are safe to use, and brands that help the environment and society in return as well. Also, detergent brands that are

usually associated with CSR campaigns, tend to have a more positive brand image, and a competitive edge over the other competing brands as well (Yu, Kuo, & Kao, 2017). Considering this gap, the current research aims at exploring the impact of Carroll's CSR pyramid levels, on the typical consumer buying behaviors. Moreover, the product category of detergents has deliberately been selected, mainly because many global brands such as Tide, Surf Excel, and Henkel have ventured into going 'green', by publicly displaying their eco-labels. If a brand is eco-friendly, it is viewed as an environmentally sustainable brand, and people can administer, and recognize it through the eco-labeling that is displayed on the packaging (Bigliardi, Bertolini, Mourad, & Ahmed, 2012). When it comes to detergent brands, Surf Excel and Ariel are considered to be renowned brands that indulge in active CSR campaigns, targeting some of the core issues that exist in our society. In specific terms, Surf Excel can be witnessed addressing the issue of poverty, and often promotes a culture of kindness in its campaigns, such as endorsing the hashtags, #NeikiEkIbadat and #MadadEkIbadat. These campaigns have been aimed towards providing the low-income strata with clothes, and other forms of necessities that are sourced via Unilever's CSR plans. Another detergent brand that goes by the name of Ariel put out the hashtag #ShareTheLoad. The campaign that was designed around this hashtag was aimed at promoting the equality and need for sharing responsibility of the household between partners in a marriage. This is a concept that is still novel in the Pakistani society, where women are believed to be the sole caretakers of the household chores. Focusing on detergents meant looking observing the impact that the respective CSR activities have in addressing and controlling the existing societal problems such as poverty, women rights, and education. In Pakistan as well, detergents are one of the categories of FMCG which have actively been involved in designing campaigns that target societal problems, and have played their role in addressing certain key issues (Farooq, 2020). Moreover, the packaging origin of the brand (local or foreign) has also been tested as a moderator between all the CSR pyramid levels, and the consumer buying behaviors for detergents.

2. Review of Literature and Hypotheses Development

2.1. Consumer Buying Behavior Driven by CSR Initiatives

Consumer behavior is the study of the practices whereby individuals choose, shop, consume, and/or discard products & services, so as to satisfy their particular needs and wants (Solomon, Dahl, White, Zaichkowsky, & Polegato, 2016). Since the last few years, it has

increasingly become indispensable to know a company's customer in and out, and understand their exact needs and wants. This facilitates the businesses in manufacturing customized products and services for their consumers. Moreover, it also helps the businesses in selecting CSR activities that will draw the positive attention of prospective investors, potential customers and consumers, towards their products and services. (Safi & Ramay, 2017).

Consumers focusing on buying, and using products attached with a CSR initiative are considered to be socially responsible. In this context, the idea of the stakeholder theory is applicable here, which states that businesses should exercise a sense of responsibility towards certain groups of individuals (Freeman, 1984). According to Maignan (2001), the most important role in the stakeholder groups is played by the consumers. These consumers are typically expected to spend more time in searching the products, possess more knowledge about what is being offered, and make sure that they do not buy products and services that are harmful to the environment, and/or to the people (Min et al. 2015).

According to Mohr, Webb, and Harris (2001), having a sound knowledge of CSR among consumers, leads to the development of positive attitudes and purchase decisions, and also positively influences the consumers' buying decisions. Other studies that have been undertaken in this area of research have shown that the personality of the consumer also plays a vital role, when attempting to draw the attention of consumers towards the CSR initiatives taken by a firm (Rahim et al., 2011; Safi & Ramay, 2013, Saleh et al., 2015). However, according to Khan (2017), people do not only tend to prefer CSR campaigns and initiatives, as the main driver to purchase one brand over the other, instead, they focus more on the price, ingredients, and quality of the product.

The notion of CSR has been found to have a significant impact on increasing the sales for the company. This has primarily been done by increasing their profits and returns, which essentially help in increasing the value of the firm in the market, and are also a source of sustained growth and competitive advantage (Diddi & Niehm, 2016; Mackey, Mackey, & Barney, 2007; Nsikan, Umoh, & Bariate, 2015; Weinzimmer & Esken, 2016). A firm's performance tends to improve because consumers usually want to buy those brands that are more ethically responsible, and often give back to the society (Creyer, 1997). Most of the companies in developed countries, that have their CSR initiatives in check, have been seen to have higher sales, as compared to competitors that were not involved in any CSR activity.

Moreover, it was also observed that the consumers preferred to buy more from companies that had well-developed CSR campaigns (Ali, 2011; Eshra & Beshir 2017; Maignan & Ferrell, 2004; Mohr et al. 2001; Nochai & Nochai, 2014). According to Carroll's CSR pyramid, there are four levels of CSR. This study considers all those levels as independent variables, in order to study their impact on consumer buying behavior, particularly for the detergent industry in Pakistan.

2.1.1. Economic Level of CSR

According to Carroll (1991), the economic level is the first level of the CSR pyramid. It is attributed as one of the main responsibilities of a business, primarily ensuring that the company produces products, and/or offers those services that are valuable to the stakeholders as a whole, and which successively help the business to pay back to its stakeholders. The economic aspect of CSR consists of the external and the internal environment of the company. That is to say, the company does not only need to satisfy the internal stakeholders and earn profits, but it also has to give back to the society, and provide value to its external stakeholders at the same time.

In order to achieve the economic level of CSR, it is essential to produce such goods, and offer those services that are beneficial to the society, that too at reasonable and affordable prices. Moreover, companies need to make sure that they pay their workers/employees at the right time and the due value is provided to the stakeholders, and their duties are fairly obliged (Carroll, 1991).

In their study, Maignan and Ralston (2002), briefly explained how a famous brand name such as Ben & Jerry's was not interested in economic CSR. It was, however, more involved in the other levels of the CSR pyramid, which could in return pose critical strategic issues for the company in the longer run. At another instance, a study based in Saudi Arabia also concluded that residents there do not consider the economic level of CSR as a vital element of CSR (Alfakhri, Nurunnabi, Alfakhri, & Hossain, 2020).

Economic CSR has been found to have a positive impact on the purchase intentions of consumers, but the lowest priority has been allotted to it, out of all the levels that are taken into consideration (Mulaessa & Wang, 2017). In a similar manner, Yunus et al. (2017) also examined the consumers' purchase intentions, and its impact on the CSR initiatives

carried out in Malaysia. He concluded that buyers weigh the economic level of CSR, more than the other levels of CSR. Hence, in this context, we hypothesize the following hypothesis.

H₁: The economic level of CSR has a positive effect on the consumer buying behavior for detergents.

2.1.2. Legal Level of CSR

Legal level of CSR is marked as level which refers to the adherence of the relevant laws, regulations, and obligations that are introduced by the government, so that businesses are able to standardize their operations (Carroll, 1991). People generally tend to admire those companies that conform to all legal responsibilities that are put on them. It is considered to be the minimum social obligation from the firms' side (Lin-Hi, 2010). Also, this level ensures that the company's performance and objectives are well coordinated with what the stakeholders demand from the company. It is generally believed in the society that firms adhering to legal laws, and offering products and services of high-quality specification are reliable, and harmless to use (McWilliams & Siegel, 2001).

As per the Carroll's CSR pyramid, if a company wants to accomplish its economic goals, it is essential for it to follow all the legal intricacies, in view of the government's policies (Carroll, 1991). Consumers rate the legal responsibility of a business, as the most important responsibility that essentially makes them decide which brand to purchase. This is primarily because they fathom a brand that follows all legal obligations is considered to be safer to use, and carries a positive impact on sales (Safi & Ramay, 2013).

Moreover, it is very important for firms to make sure that they follow the customer and product-based laws, reduce the negative impact on the environment, and deal with competitors in a law-abiding manner (Conchius, 2006). In this regard, no relationship was found between the legal level of CSR and the consumer behavior, in a study conducted in Malaysia (Min et al. 2015), and between the urban and rural perception of CSR in Vietnam as well (Huang, Do, & Kumar, 2019). Whereas, Nochai and Nochai (2014) found legal level of CSR significantly impacting consumer buying behavior. Hence, we offer the following hypothesis.

H₂: Legal level of CSR has a positive effect on consumer buying behavior for detergents.

2.1.3. *Ethical Level of CSR*

The ethical level of CSR is characterized by the activities that are pursued by the businesses, in accordance with societal norms, values, and behaviors (Carroll 1991; Eshra & Beshir, 2017). It is imperative for businesses to ensure that there is stability amongst the economic, legal and ethical levels of the CSR activities, and any disparity amongst these three levels can lead to inevitable complications for the businesses, in the longer run. Consumers were found highly likely to be willingly paying higher prices for the products, and developing a favorable attitude towards those companies that practiced ethical business practices (Creyer, 1997). According to Creyer (1997), when consumers read ethical labels on the brands, such as “No Animal Testing”, they preferred to purchase that particular product/service, as compared to the competitor’s products. Moreover, consumers rated the ethical level of CSR as the most important, and even the most superior one to all the other levels of CSR. They also considered buying products that were manufactured by companies that had ethics as a core virtue (Luo & Bhattacharya, 2006). In addition to this, ethical brands have been considered to be linked significantly with customer well-being as well (Ferrell, Harrison, Ferrell, & Hair, 2019). However, specifically speaking, Indian consumers consider it to be an extremely important parameter that a company indulges in ethical practices (Gupta & Wadera, 2019). Hence, keeping these intricacies in mind, we hypothesize that:

H₃: The ethical level of CSR has a positive effect on the consumer buying behavior for detergents.

2.1.4. *Philanthropic Level of CSR*

The philanthropic level of CSR is referred to as any activity or obligation that is primarily intentional and voluntary in nature, and following these initiatives leads to higher levels of recognition and appreciation (Carroll 1991; Eshra & Beshir, 2017). There are very few people who actually anticipate this level of CSR to be fulfilled by any organization. Philanthropy is a choice that is made by an organization, though the expectations from the society are always there (Tewari & Pathak, 2014).

According to Eshra and Beshir (2017), if the employees of a firm participate in such voluntary actions that are aimed towards doing well, it helps them to develop a level of persistence by facilitating the support

needed to boost the quality of life of people in the society. Usually, companies tend to get confused between the philanthropic level of CSR, and the ethical level of CSR. The fundamental difference between these two levels is that in the ethical level of CSR, it is important for the company to operate in a virtuous and moral manner, because the society demands such behavior. Whereas, at the philanthropic level of CSR companies consciously aim towards gaining appreciation for their goodwill efforts towards the society. However, if the employees are not involved in any philanthropic activity, it will not provoke any criticism for the firm (Maignan & Ferrell, 2004).

Philanthropic activities are essential for a company, in order to gain advantage over its competitors. Also, it is of the utmost significance that companies include philanthropy as a key component in their strategy formulation, in order to gain the society's admiration (Figar & Figar, 2011). In the same context, Bežovan (2002) discussed the main forms through which a business gives back to the society. According to the findings, it is either done by giving out scholarships and/or by making the living conditions of people better. Also, products that have an educational campaign attached to it are usually bought more by customers, as they primarily to contribute towards the increasing literacy levels in the society. According to a study of Vietnamese consumers, urban consumers are more inclined towards the economic level of CSR, whereas the rural consumers pay more attention to the philanthropic level of CSR (Huang et al., 2019). Hence, we can hypothesize that:

H₄: The philanthropic level of CSR has a positive effect on the consumer buying behavior for detergents.

2.2. The Packaging Origin of the Detergent Brand as a Moderating Variable between all the CSR Levels and Consumer Buying Behavior

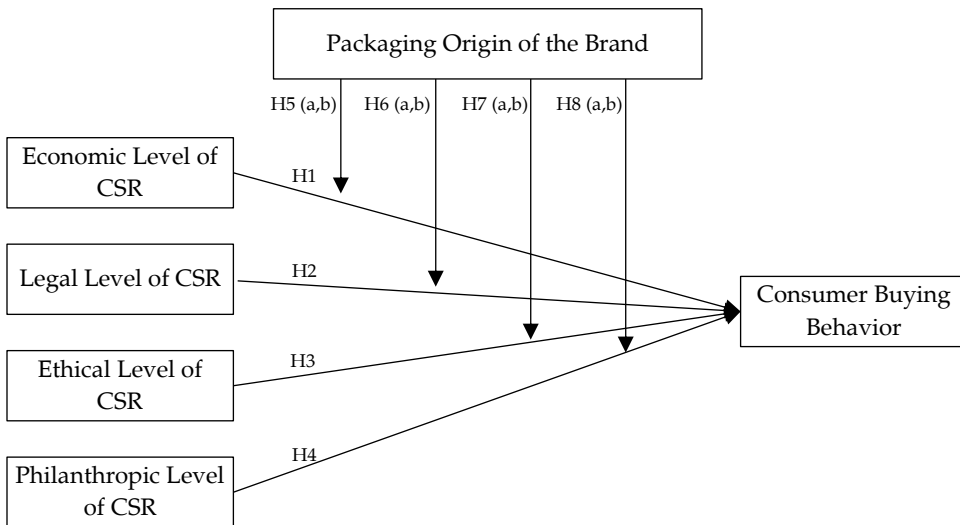
Due to globalization, a country's marketplace usually consists of both the global and local brands. In this regard, the intense demand for consumer goods in Pakistan has attracted millions of dollars of global investments (Haq, 2018). Consumers usually prefer global brands, in order to feel their connection with specific groups e.g., global cosmopolitanism (Alden, Steenkamp, & Batra, 1999). In the current scenario, we assume that the people of Pakistan think of global brands as more socially responsible, primarily because of the "green" element attached to them.

In this regard, the concept of ethnocentrism plays a vital role. Polycentric consumers evaluate the products solely based on their qualities/benefits, irrespective of the country of origin. Perhaps, they might also consider them more positively because they are imported brands (Vida, 2001). According to Alden et al. (1999), consumer ethnocentrism may be capable of moderating the function pertaining to the superior appeal of the global brands in the market place. Therefore, based on the literature that surrounds this area of study, we can hypothesize that:

H_{5a-5h}: The positive effect of all the four levels of CSR, on the consumer buying behavior for detergents will be stronger for detergent brands that have been packaged abroad, and weaker for detergent brands that have been packaged locally.

The proposed model and hypotheses are summarized in Figure 1.

Figure 1: Conceptual Model



Using the model displayed in figure 1, we have checked the significance of Carroll's CSR Pyramid, on shaping the consumer buying behavior in the detergent industry of Pakistan. The four domains of Carroll's pyramid are thus taken to be as the independent variables. Whereas, the consumer buying behavior is considered to be the dependent variable. Moreover, the packaging origin of the brand acts as a moderating factor to further test the hypothesis that have been stated earlier.

3. Methodology

3.1. Research Design and Data Collection

This study is descriptive, quantitative, and cross-sectional in nature. With the help of the survey conducted for the purpose of this nature, four relationships were tested. These included testing whether positive relationships exist between all four of Carroll's CSR pyramid levels separately, and the consumer buying behavior, for the considered detergent brands. In this regard, the questionnaire that was designed was generated, and conducted through household drop-off/pick up (DOPU), self-administered questionnaire method. In this method, the respective questionnaires (refer to Appendix A) were self-delivered to the respondents at their homes, with the primary aim of giving them time to fill them out in their private space and time, keeping in mind the factor of convenience for them, with a promise for getting them back to the researchers within the 24 hours mark.

The utmost care was taken that the questionnaire was given to the right target audience (men or women, who do groceries for their home), who were concerned about the CSR initiatives that have been carried out by different detergent brands. In this regard, four, high profile and elite areas of Lahore (Defense Housing Authority, Cantonment, Gulberg, and Model Town) were selected. The households were selected through the convenience sampling technique. Moreover, the researchers randomly approached 100 households from each locality that had been shortlisted. The research was carried out over a course of 30 days, and a total of 400 questionnaires were circulated in the above-mentioned areas. According to Roscoe (1975), a sample size of 250 - 400 is treated as an exceptional one because the results established can be generalized. In this regard, a total of 337 questionnaires were retrieved back, out of which 280 were usable questionnaires. The overall response rate was at 70 percent. The socio-demographic characteristics of the study, and the other variables related to the CSR initiatives are provided in Table 1:

Table 1: Socio-Demographic Characteristics of the Sample

| Variables | Description | Frequency | Percentage |
|--|--|------------------|-------------------|
| Gender | Male | 108 | 38.6 |
| | Female | 172 | 61.4 |
| Age | Below 24 | 51 | 18.2 |
| | 25 to 34 | 68 | 24.3 |
| | 35 to 44 | 118 | 42.1 |
| | 45 and above | 43 | 15.4 |
| | | | |
| Education | High school/O levels | 10 | 3.6 |
| | Intermediate/A levels | 34 | 12.1 |
| | Bachelors | 131 | 46.8 |
| | Masters | 89 | 31.8 |
| | Post Graduate | 16 | 5.7 |
| Marital Status | Single | 94 | 33.6 |
| | Married | 174 | 62.1 |
| | Widowed | 12 | 4.3 |
| Monthly Disposable Income (Rupee) | < 50,000 | 17 | 6.1 |
| | 50,001 to 75,000 | 38 | 13.6 |
| | 75,001 to 100,000 | 89 | 31.7 |
| | 100,001 to 125,000 | 63 | 22.5 |
| | 125,001 to 150,000 | 56 | 20 |
| | > 150,000 | 17 | 6.1 |
| Who does the grocery? | Me | 50 | 17.9 |
| | My Spouse | 57 | 20.3 |
| | Me and My Spouse | 158 | 56.4 |
| | Servants | 15 | 5.4 |
| | | | |
| Do you prefer buying brands offering CSR initiatives? | Yes | 201 | 71.8 |
| | No | 49 | 17.5 |
| | Does not matter | 30 | 10.7 |
| Detergent Brands used in home | Ariel | 74 | 26.4 |
| | Surf Excel | 103 | 36.8 |
| | Express Power | 64 | 22.9 |
| | Brite | 18 | 6.4 |
| | Tide | 21 | 7.5 |
| Packaging origin of the brand (Local or foreign) | Local | 156 | 55.7 |
| | Ariel+Express Power+Brite=Local Surf Excel+Tide=Foreign | 124 | 44.3 |

3.2. Measures

3.2.1. Dependent Variable

When taking the dependent variable into account, the consumer buying behavior was measured using five items, as measured on a five-point Likert scale. This ranged from a scale of 1 (strongly disagree) to 5 (strongly agree) (Wu & Lin, 2014; Xu & Yang, 2012). The items, item loadings, and Cronbach's alpha can therefore be seen in Table 2.

3.2.2. Independent Variables

The economic level of CSR, legal level of CSR, and the ethical Level of CSR were measured using the five items that were gauged on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree) (Wu & Lin, 2014; Xu & Yang, 2012). The items, item loadings, and Cronbach's alpha can thus also be seen in Table 2. However, the philanthropic level of CSR was measured using four items that were gauged on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree) (Wu & Lin, 2014; Xu & Yang, 2012). The items, item loadings, and Cronbach's alpha can thus be seen in Table 2.

Table 2: Carroll's CSR Pyramid Levels Constructs

| Latent variable (Cronbach's alpha) | Measured variables (items) | Item loading |
|---|---|-------------------------|
| Consumer Buying Behavior (0.926) | | |
| CBB1 | I purchase products and services of the detergent brand on regular basis. | 0.83 |
| CBB2 | The detergent brand promotional activities fuel my purchasing desire. | 0.81 |
| CBB3 | I am highly familiar with different detergent brands. | 0.77 |
| CBB4 | I would recommend my friends or relatives to purchase the detergent brand. | 0.88 |
| CBB5 | I would tell other consumers about the advantages of buying the detergent brand. | 0.93 |
| Economic Level of CSR (0.934) | | |
| Eco1 | The detergent brand stimulates the local market. | 0.82 |
| Eco2 | The detergent brand is offered at a reasonable price | 0.89 |
| Eco3 | The detergent brand provides great value for money. | 0.88 |
| Eco4 | The detergent brand provides advantages to the consumers. | 0.76 |
| Eco5 | The detergent brand stimulates economic activities in Pakistan. | 0.83 |
| Legal Level of CSR (0.920) | | |
| Legal1 | The detergent brand abides by legal regulations | 0.94 |
| Legal2 | The detergent brand abides by all transaction laws and regulations. | 0.88 |
| Legal3 | The detergent brand meets all its legal obligations. | 0.87 |
| Legal4 | The company that owns this brand complies with the regulations of the country. | 0.81 |
| Legal5 | The detergent brand meets all required regulations. | 0.65 |
| Ethical Level of CSR (0.919) | | |
| Ethical1 | The detergent brand meets the expectations of the society. | 0.76 |
| Ethical2 | The detergent brand respects the moral standards of the society. | 0.88 |
| Ethical3 | The detergent brand handles defective units to meet satisfaction of consumers. | 0.75 |
| Ethical4 | The detergent brand is trustworthy and reliable. | 0.87 |
| Ethical5 | The detergent brand abides by its commercial ethical standards. | 0.89 |
| Philanthropy Level of CSR (0.898) | | |
| Phil1 | The detergent brand meets the expectations of society in the field of philanthropic activities. | 0.85 |
| Phil2 | The detergent brand organizes or sponsors philanthropic activities. | 0.84 |
| Phil3 | The detergent brand staff participates in philanthropic activities on a voluntary basis. | 0.72 |
| Phil4 | The detergent brand participates in public welfare activities. | 0.91 |

3.3. Statistical Analysis

The data was further analyzed through the Structural Equation Modeling (SEM) technique. The SEM was undertaken, in order to study the measurement model through the confirmatory factor analysis, and then the proposed hypotheses was tested further through the path analysis. The maximum likelihood estimation was checked, in order to analyze the normality of the data (Kline, 2005). Moreover, the data had no missing values.

3.3.1. Confirmatory Factor Analysis (CFA)

The CFA was carried out, in order to test the goodness of fit criterion, and also to examine the reliability and validity of the measurement model (Hair, Anderson, Black, Babin & Tatham, 2006). In this regard, all the items were retained, because they were all above the cut-off point at 0.50. Moreover, no correlation was found amongst the error terms pertaining to all the items. Table 3 displays the information on the model fit indices.

Table 3: Model Fit Summary for CFA

| Key | Recommended Value | Observed Value |
|----------------------|---|----------------|
| Chi-square/df | 1 to 3 (Segars & Grover, 1998) | 1.980 |
| NFI | Greater than 0.6 (Shadfar & | 0.799 |
| GFI | Malekmohammadi, 2011), greater than 0.8 | 0.754 |
| CFI | (Segars & Grover, 1998), greater than 0.9 | 0.833 |
| TLI | (Byrne, Shavelson, & Muthén, 1989) | 0.756 |
| RMSEA | Score less than 0.10 (Hair et al., 2006) | 0.084 |

The reliability factor of the instrument was examined using the measure of composite reliability (Cronbach alpha). The value for this can be seen in Table 2. As a common practice, the general acceptable level of composite reliability is more than 0.70 (Salman, Khan, & Gul, 2014). In addition to this, the instrument validity was also examined by referring to the discriminant validity, using the suggested technique by Fornell and Larcker's (1981), where the AVE (convergent reliability figure) is compared with the ASV. The calculated value should ideally be less than the AVE. Table 4 summarizes the results of validity, of the instrument.

Table 4: Instrument Validity

| Constructs | AVE Observed value | Discriminant validity Observed Value | Result |
|----------------------------|--------------------|--------------------------------------|--------|
| Consumer buying behavior | 0.716 | 0.714 | Holds |
| Economic level of CSR | 0.740 | 0.699 | Holds |
| Legal level of CSR | 0.699 | 0.685 | Holds |
| Ethical level of CSR | 0.694 | 0.679 | Holds |
| Philanthropic level of CSR | 0.690 | 0.648 | Holds |

3.3.2. Structural Model Analysis

The formulated hypotheses were tested using the structural analysis in AMOS.

4. Results

The means and standard deviations, along with the correlation matrix have been mentioned in Table 5. The model for the analysis was found to be reasonably fit (chi-square/df = 1.787, NFI = 0.86, GFI = 0.89, CFI = 0.93, TLI, 0.92, RMSEA = 0.04). Moreover, the Variance Inflation Factor (VIF) values can also be observed in Table 5. Since the value of each VIF is below five, we can conclude that there was no multi-collinearity found in the data.

Table 5: Descriptive Statistics and Correlation Matrix

| Variable | Mean | S.D. | VIF | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|------|------|------|--------|--------|--------|--------|--------|---|
| 1. Consumer buying behavior | 2.17 | 0.59 | | | | | | | |
| 2. Economic level of CSR | 2.16 | 0.59 | 2.8 | 0.80** | | | | | |
| 3. Legal level of CSR | 2.19 | 0.59 | 1.92 | 0.81** | 0.87** | | | | |
| 4. Ethical level of CSR | 2.21 | 0.65 | 2.06 | 0.93** | 0.84** | 0.85** | | | |
| 5. Philanthropic level of CSR | 2.23 | 0.58 | 2.34 | 0.88** | 0.79** | 0.81** | 0.87** | | |
| 6. Packaging origin of the brand | 1.38 | 0.5 | 2.01 | 0.82** | 0.78** | 0.83** | 0.81** | 0.80** | |

Notes: n=280, **p<0.01

The results for all the hypotheses can be summarized in Table 6.

Table 6: Results of Hypotheses Testing

| Hypothesis | Relation | Estimate | Decisions |
|------------|---|----------------------------|---------------------|
| H1 | Economic level of CSR | → Consumer Buying Behavior | 0.089** Supported |
| H2 | Legal level of CSR | → Consumer Buying Behavior | 0.052 Not Supported |
| H3 | Ethical level of CSR | → Consumer Buying Behavior | 0.894*** Supported |
| H4 | Philanthropic level of CSR | → Consumer Buying Behavior | 0.410*** Supported |
| H5a | Economic level of CSR (<i>local brand</i>) | → Consumer Buying Behavior | 0.053 Not Supported |
| H5b | Economic level of CSR (<i>foreign brand</i>) | → Consumer Buying Behavior | 0.161 Not Supported |
| H6a | Legal level of CSR (<i>local brand</i>) | → Consumer Buying Behavior | 0.187 Not Supported |
| H6b | Legal level of CSR (<i>foreign brand</i>) | → Consumer Buying Behavior | 0.274 Not Supported |
| H7a | Ethical level of CSR (<i>local brand</i>) | → Consumer Buying Behavior | 0.238*** Supported |
| H7b | Ethical level of CSR (<i>foreign brand</i>) | → Consumer Buying Behavior | 0.364*** Supported |
| H8a | Philanthropic level of CSR (<i>local brand</i>) | → Consumer Buying Behavior | 0.113** Supported |
| H8b | Philanthropic level of CSR (<i>foreign brand</i>) | → Consumer Buying Behavior | 0.265** Supported |

** p<0.01 ***p<.001

In the model, the economic level of CSR activities was found to be a significant and positive predictor of a consumer buying a detergent brand, hence providing support for H₁. However, the factor pertaining to the legal level of CSR activities was found to be unrelated to the consumers who were purchasing a particular brand of detergent. Hence, the H₂, which stated that the legal level of CSR activities has a significant positive effect on consumer buying behavior for detergents, was therefore not supported. Furthermore, H₃ stated that there exists a positive relationship between the legal level of CSR activities, and the consumer buying behavior for detergents. In this regard, the relationship was found to be significant, thus providing support for H₃. The philanthropic level of CSR activities, was observed to be a significant and positive predictor of the consumer buying behavior for detergents, hence providing support for H₄ as well. Collectively, these four independent variables contributed to about 87.30 percent of the variation in the consumer buying behavior for detergent brands in Pakistan ($R^2 = 0.873^{***}$)

However, when testing H_{5a-5h} , only the positive effect of the ethical and philanthropic levels of CSR, on the consumer buying behavior for detergents, was stronger when global brands were taken into consideration, and weaker when the local brands were looked at. The effects of the economic and legal levels of CSR were found to be insignificant for both the global and the local brands.

5. Discussion

According to Eshra and Beshir (2017), a firm involved in initiating activities that result in giving back to the society, and one that is frequently involved in socially responsible activities, has a more positive impact on the consumers. This also tends to become an attractive feature for the consumers, in such a way that they are compelled to purchase that brand. This current study builds upon on Carroll's CSR pyramid, regarding whether any CSR activity actually and ultimately affects the consumer buying behavior, while selecting a detergent/washing powder in Pakistan. Moreover, the authors have also used the packaging origin of the detergent brand, as moderating variable, in order to test the strength of the relationship that exists between all the levels of CSR activities, and consumer buying behavior pertaining to any detergent brand. The current study preserved the results of the previous research studies. It did so by simplifying the idea that in Pakistan, consumers generally tend to prefer three levels of CSR activities, out of the four levels, when they decide to buy a brand of detergent. Furthermore, the brands packaged abroad have been found to be stronger, in terms of moderating between the different levels of the CSR pyramid, and the consumer buying behavior of detergent brands.

5.1. *Economic Level of CSR and Consumer Buying Behavior*

The Economic level of CSR has been ranked as the second most important form of CSR, (Maignan & Farrell, 2004) and extremely important for consumers, particularly when selecting their preferred brands because of value creation (McAlister, Thorne, Ferrell, & Ferrell, 2003). In Pakistan, it was concluded that consumers considered the economic level of CSR as an important variable, but not as important as the other countries did. However, the results received were positive, as well as significant in nature. This means that the detergent brands in Pakistan that are actively involved in the process of value creation are generally be considered to be more important, especially when the consumer will be deciding on which brand to buy. This in turn will lead to an increase in the sales, and help the respective company to pay back its stakeholders. In addition to this,

grocery shoppers in Pakistan believe that the eco-friendly detergent brands tend to provide a better value for their money, and hence are willing to pay more for them. However, according to the results, the packaging origin of a brand did not play any part in strengthening the role between the economic level of CSR, and the consumer buying behavior for detergent brands. The reason can be attributed towards rather similar prices of locally, as well as internationally packaged brands.

5.2. Legal level of CSR and consumer buying behavior

The legal level of CSR was a very critical factor for consumers. This was because they believed that companies following the appropriate legal rules and laws would make products that would be safe to use, and would not cause any harm (Conchius, 2006). In this context, Creyer (1997) presented the same results, as the legal level of CSR was seen to have a highly significant impact in increasing the level of the consumer buying behavior. When tested in the city of Lahore, insignificant results were obtained, showing that the consumers tend not pay heed to the legal situation of the respective company, and it has no effect on molding their consumer behavior towards a CSR oriented brand. There are two reasons behind this: i) In Pakistan, the legal aspects of a business are mostly kept as a private matter, and are kept confidential hidden; and ii) Consumers are unaware of their human and civil rights.

Even if consumers are aware of their rights, still taking consumer related matters to court leads to years of fighting the case, and very less chances of winning it in the end. In addition to this, many MNCs in Pakistan weigh the environmental issues to be far more concerning than their internal legal issues (Hameed, 2010). Hence, it is also assumed that the legal level of CSR activity has no impact on the consumer preferring a particular detergent brand. Moreover, as the results are insignificant, the packaging origin of the brand plays no role in strengthening the relationship between the legal level of CSR, and the consumer buying behavior for detergent brands, for obvious reasons.

5.3. Ethical level of CSR and consumer buying behavior

Research studies that have been undertaken in the past show that consumers prefer the ethical level of CSR, as the most important aspect in consumer buying behavior. Moreover, the companies involved in ethical behavior have a more loyal consumer base, and hence a higher sales pattern as well (Luo & Bhattacharya, 2006). A study by Creyer (1997)

produced the same results, where the consumers preferred to purchase products from brands that were more ethical, and followed all the ethical set of norms and rules for existing in a society. It was even observed that for ethically labeled products consumers were willing to pay a higher price, without any regrets.

When this phenomenon was tested in Lahore, the exact same results were received, as the results were positive and highly significant. This showed that there exists a strong relationship between the ethical level of CSR, and the consumer buying behavior for detergents. In this regard, people tend to find eco-friendly detergent brands to be more trust worthy and reliable. Moreover, when the packaging origin of the brand was used as a moderating variable between the ethical level of CSR, and the consumer buying behavior for detergents, the relationship strengthens if the brand is packaged abroad. Results reveal that consumers in Pakistan expect the foreign/global brands to be more ethical than the local brands of detergent, hence a stronger relationship.

5.4. Philanthropic level of CSR and consumer buying behavior

The philanthropic level of CSR has been found to be an important and significant aspect, when it comes to the consumer buying behavior. This is because consumers regard companies involved in it to be more responsible and caring for the society (Bežovan, 2002). According to Rahim et al. (2011), the philanthropic level of CSR is one of the most important levels of CSR, as it does not only aids in the development of the internal environment of the company, but also leads to more satisfied customers. In addition to this, Huang et al. (2019) found that the philanthropic level happens to be an extremely important parameter for Vietnamese consumers. Thus, the current study has produced the same results, showing that the philanthropic level of CSR is an important variable which affects the consumer buying behavior, in this case, for detergent brands. Moreover, it is expected for eco-friendly detergent brands to participate in public welfare activities, even more than non-eco-friendly detergent brands. Also, the relationship tends to strengthen if the detergent brand is packaged abroad. This is because people trust international brands more than the local brands, with respect to spending precious funds on activities related to social welfare.

6. Limitations, Future Research Directions and Implications

6.1. Limitations and Future Research Directions

The duration of conducting this study was a total of two months. Because of certain time limitations, a larger sample could not be taken into account, and only four elite residential areas of Lahore were selected. If there was a provision of more time and resources, data from other areas of different cities could also be considered, which could have helped in generalizing the results to a broader population. Moreover, the respondents were expected to fill in the questionnaires very casually, by not paying much attention to the questions being asked in the survey. Moreover, this study is particularly behavioral in nature, thus the longitudinal data can produce different responses as well. The research can also be replicated in other sectors of the FMCG industry, such as soft drinks, snacks and toiletries, etc. Lastly, the lack of knowledge and transparency by the brands selling detergents in Pakistan regarding CSR activities might also create huge difficulty, while choosing the right respondents for the study in the future.

6.2. Practical Implications

This research clearly depicts that the economic, ethical and philanthropic levels of CSR are essential in affecting the consumer buying behavior of the consumers in Pakistan. For this purpose, the managers of local brands (not necessarily detergent only) can make sure that while developing CSR initiatives/programs, they include these three aspects in their policies, in order to encourage more consumers to buy their brands. Also, locally packaged detergent brands need to be more actively involved in all levels of the CSR activities, such as providing scholarships for education, planting trees to make the environment clean and fresh, and supporting women education in poverty stricken and suburban areas. This will leave a greater impact on the consumers. Meeting the ethical norms and behaviors is also very important for detergent brand managers, as making the ethical side of their business transparent can potentially lead to the creation of a more loyal customer base.

7. Conclusions

Currently, as companies are trying their best to compete for higher sales from the other offerings in the market, CSR can be taken as extremely important factor. This is primarily because it can help the companies in

gaining more advantage over their competitors, to gain more profits, and eventually score more sales in the longer run. In addition to this, consumers now prefer to buy products/services that contribute more towards the betterment of the society. This is because they think that brands that are more responsible will always be better and safe to use, and they will become a part of the overall good that is taking place.

Also with this research, we can gauge that the locally packaged detergent brands in Pakistan should focus on the economic, ethical and philanthropic side of CSR. This is because the consumers believe they are more important, and directing their emotional capacity in this regard. Consequently, companies can have a more loyal customer base. It can also be seen that consumers of socially responsible firms tend to be more involved with the working of the firm. This in turn helps individuals portray their personalities, or identity by helping the brand achieve its socially responsible duties.

References

- Alfakhri, Y., Nurunnabi, M., Alfakhri, D. H., & Hossain, S. F. A. (2020). Corporate Social Responsibility in Saudi Arabia: Application of Carroll's Model. *Journal of Xi'an University of Architecture and Technology*, 12(VI), 1059-1072.
- Ali, I. (2011). Influence of corporate social responsibility on development of corporate reputation and customer purchase intentions. *Munich Personal RePEc Archive, Paper No. 33889*.
- Alden, D.L., Steenkamp, J.B.E. & Batra, R. (1999). Brand positioning through advertising in Asia, North America, and Europe: The role of global consumer culture. *Journal of Marketing*, 63(1), pp.75-87.
- Bežovan, G. (2002). Socijalna odgovornost gospodarstva i iskustva u Hrvatskoj. *Revija za Sociologiju*, 33(1-2), pp.17-32.
- Bigliardi, B., Bertolini, M., Mourad, M., & Ahmed, Y. S. E. (2012). Perception of green brand in an emerging innovative market. *European Journal of Innovation Management*. 15(4), Pp.515-537.
- Byrne, B.M., Shavelson, R.J. & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: the issue of partial measurement invariance. *Psychological Bulletin*, 105(3), p.456.
- Carroll, A.B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), pp.39-49.
- Conchius, T. (2006). *Corporate social responsibility in Dutch SME: motivations and CSR stakeholder* (Thesis). Maastricht University, Netherlands.
- Creyer, E.H. (1997). The influence of firm behavior on purchase intention: do consumers really care about business ethics? *Journal of Consumer Marketing*, 14(6), pp.421-432.
- Didi, S. & Niehm, L.S. (2016). Corporate social responsibility in the retail apparel context: Exploring consumers' personal and normative influences on patronage intentions. *Journal of Marketing Channels*, 23(1-2), pp.60-76.

- Eshra, N. & Beshir, N. (2017). Impact of corporate social responsibility on consumer buying behavior in Egypt. *World Review of Business Research*, 7(1), pp.32-44.
- Farooq, M. (2020, Feb 20). CSR Activities in Pakistan. *Transparent Hands*.
<https://www.transparenthands.org/csr-activities-in-pakistan/>
- Ferrell, O. C., Harrison, D. E., Ferrell, L., & Hair, J. F. (2019). Business ethics, corporate social responsibility, and brand attitudes: An exploratory study. *Journal of Business Research*, 95, 491-501.
- Figar, N. & Figar, V. (2011). Corporate social responsibility in the context of the stakeholder theory. *Facta universitatis-series: Economics and Organization*, 8(1), pp.1-13.
- Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), pp.39-50.
- Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman Publishing Inc. Marshfield, MA.
- Gigauri, I. (2012). Impact of corporate social responsibility on consumer purchase decision. *American-Eurasian Journal of Scientific Research*, 7(5), pp.207-211.
- Gupta, M. S. S., & Wadera, D. (2019). Awareness and Understanding of Corporate Social Responsibility Among Indian Consumers. *International Journal of Research and Analytical Review*, 6(2), pp.570-587.
- Hair, J.F., Anderson, R.E., Black, W.B., Babin, B. & Tatham, R.L. (2006). *Multivariate Data Analysis*. New Jersey, USA: Auflage.
- Hameed, S. K. (2010). *Corporate social responsibility (CSR) theory and practice in Pakistan*. (Thesis). Swedish University of Agricultural Sciences, Ultana, Sweden.
- Harrison, J., Rouse, P. & De Villiers, C. (2012). Accountability and performance measurement: a stakeholder perspective. *Journal of Centrum Cathedra: The Business and Economics Research Journal*, 5(2), pp.243-258.

- Haq, R. (2018, March 28). FMCG boom in Pakistan, *Daily Times*.
<https://dailytimes.com.pk/220601/fmcg-boom-in-pakistan/>
- Huang, Y. F., Do, M. H., & Kumar, V. (2019). Consumers' perception on corporate social responsibility: Evidence from Vietnam. *Corporate Social Responsibility and Environmental Management*, 26(6), 1272-1284.
- Khan, M.A. (2017). To Evaluate the Role of CSR (Corporate Social Responsibility) Programs on the Buying Behavior of Consumers of FMCG Sector Companies in Lucknow. *Amity Global Business Review*, 12(2), pp.46-50.
- Kline, T. J. (2005). *Psychological testing: A practical approach to design and evaluation*. SAGE Publications, Inc. <https://www.doi.org/10.4135/9781483385693>
- Lin-Hi, N. (2010). The problem with a narrow-minded interpretation of CSR. Why CSR has nothing to do with philanthropy. *Ramon Llull Journal of Applied Ethics*, 1(1), pp.75-95.
- Luo, X., & Bhattacharya, C.B. (2006). Corporate social responsibility, customer satisfaction, and market value. *Journal of Marketing*, 70(4), pp.1-18.
- Mackey, A., Mackey, T.B. & Barney, J.B. (2007). Corporate social responsibility and firm performance: Investor preferences and corporate strategies. *Academy of Management Review*, 32(3), pp.817-835.
- Maignan, I. (2001). Consumers' perceptions of corporate social responsibilities: A cross-cultural comparison. *Journal of Business Ethics*, 30(1), pp.57-72.
- Maignan, I. & Ferrell, O.C. (2004). Corporate social responsibility and marketing: An integrative framework. *Journal of the Academy of Marketing science*, 32(1), pp.3-19.
- Maignan, I. & Ralston, D.A. (2002). Corporate social responsibility in Europe and the US: Insights from businesses' self-presentations. *Journal of International Business Studies*, 33(3), pp.497-514.
- McAlister, D.T., Thorne, D.M., Ferrell, O.C. & Ferrell, L. (2003). *Business and society: A strategic approach to corporate citizenship*. Houghton Mifflin College Division.

- McWilliams, A. & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26(1), pp.117-127.
- Min, C.M., Ai, Y.J., Choo, A.C.P., Wah, W.P. & Yang, Y.C. (2015). A study of the effect of corporate social responsibility (CSR) towards consumer buying behavior. In *International Conference of Management, Economics and Finance*.
- Mohr, L.A., Webb, D.J. & Harris, K.E. (2001). Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior. *Journal of Consumer Affairs*, 35(1), pp.45-72.
- Mulaessa, N. & Wang, H. (2017). The effect of corporate social responsibility (CSR) activities on consumers purchase intention in china: mediating role of consumer support for responsible business. *International Journal of Marketing Studies*, 9(1), pp.73-81.
- Nochai, R. & Nochai, T. (2014). The effect of dimensions of corporate social responsibility on consumers' buying behavior in Thailand: A case study in Bangkok. In *International Conference on Economics, Social Sciences and Languages, Singapore*. Retrieved from <http://icehm.org/siteadmin/upload/5031ED0514068.pdf>.
- Nsikan, J.E., Umoh, V.A. & Bariate, M. (2015). Corporate social responsibility and mobile telecommunication competitiveness in Nigeria: the case of MTN Nigeria. *American Journal of Industrial and Business Management*, 5(08), p.527.
- Rahim, R.A., Jalaludin, F.W. & Tajuddin, K. (2011). The importance of corporate social responsibility on consumer behavior in Malaysia. *Asian Academy of Management Journal*, 16(1), pp.119-139.
- Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences*. Holt, Rinehart and Winston, New York.
- Safi, A. & Ramay, M.I. (2013). Corporate social responsibility and consumer behavior: a study from Pakistan. *Information Management and Business Review*, 5(4), p.194.

- Saleh, M.T., Ebeid, A.Y. & Abdelhameed, T.A. (2015). Customers' Perception of Corporate Social Responsibility (CSR): It's Impact on Word-of-Mouth and Retention. *Innovative Marketing*, 11(2), pp.49-55.
- Salman, M., Khan, S. & Gul, M.S.A. (2014). Factors influencing impulse buying of sports team merchandise in developing country: An empirical investigation. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 8(1), pp.185-200.
- Segars, A.H. & Grover, V. (1998). Strategic information systems planning success: an investigation of the construct and its measurement. *MIS Quarterly*, 22(2), pp.139-163.
- Shadfar, S. & Malekmohammadi, I. (2011). Exploratory factor analysis on state intervention policies to boost rice production. *Advances in Environmental Biology*, 5(8), pp.2509-2516.
- Solomon, M.R., Dahl, D.W., White, K., Zaichkowsky, J.L. & Polegato, R. (2016). *Consumer behavior: Buying, having, and being (Vol. 11)*. Toronto, Canada: Pearson.
- Tewari, R. & Pathak, T. (2014). Sustainable CSR for micro, small and medium enterprises. *Journal of Management & Public Policy*, 6(1), pp.34-44.
- Vahdati, H., Mousavi, N., & Tajik, Z. M. (2015). The study of consumer perception on corporate social responsibility towards consumers attitude and purchase behavior. *Asian Economic and Financial Review*, 5(5), 831-845.
- Vida, I. (2001). An empirical analysis of consumer purchasing behavior in former Yugoslav markets. *Economic and Business Review*, 3(3), pp.191-207.
- Weinzimmer, L.G. & Esken, C.A. (2016). Risky business: Taking a stand on social issues. *Business Horizons*, 59(3), pp.331-337.
- Wu, S.I. & Lin, H.F. (2014). The correlation of CSR and consumer behavior: A study of convenience store. *International Journal of Marketing Studies*, 6(6), p.66.

- Xu, D. & Yang, D. (2012). *The Influence of Corporate Social Responsibility Initiatives on University Students' Buying Behavior*. (Master's Thesis). Karlstad Business School, Karlstad University, Karlstad, Sweden.
- Yam, S. (2013). The practice of corporate social responsibility by Malaysian developers. *Property Management*, 31(1), pp.76-91.
- Yu, H. C., Kuo, L., & Kao, M. F. (2017). The relationship between CSR disclosure and competitive advantage. *Sustainability Accounting, Management and Policy Journal*, 8(5), pp.547-570.
- Yunus, S. M., Kamaruddin, Z., & Embong, R. (2017). Towards Banking Jurisprudence: Understanding Islamic Banking Products in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 7(8), 215-228.

Appendix A (Questionnaire)

Section 1: Demographic Information

- 1) Gender
 - a) Male
 - b) Female

- 2) Age
 - a) Below 24
 - b) 25-34
 - c) 35-44
 - d) 45 and Above

- 3) Education (Last degree received)
 - a) High School or O-Levels
 - b) Intermediate or A-Levels
 - c) Bachelors
 - d) Masters
 - e) Post Graduate Program

- 4) Marital Status
 - a) Single
 - b) Married
 - c) Widowed

- 5) Monthly disposable income
 - a) < 50,000
 - b) 50,001 to 75,000
 - c) 75,001 to 100,000
 - d) 100,001 to 125,000
 - e) 125,001 to 150,000
 - f) > 150,000

- 6) Who does the grocery
 - a) Me
 - b) My Spouse
 - c) Me and my spouse
 - d) Servants

- 7) Do you prefer buying brands offering CSR initiatives?
 - a) Yes
 - b) No

- 8) Detergent brands used in home?
 - a) Ariel
 - b) Surf Excel
 - c) Express Power
 - d) Brite
 - e) Tide

Section 2

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|--------------------------|-----------------|----------------|--------------|-----------------------|
| I think that tie brand, can stimulate the local market. | | | | | |
| I think that the brand offers reasonably priced products | | | | | |
| I think that the brand provider great value products | | | | | |
| I think that the brand provides advantages for consumers | | | | | |
| I think that tie brand can stimulate economic activities m Pakistan | | | | | |
| I think that the brand abides by legal regulations | | | | | |
| I think that the brand abides by all transaction laws and regulations | | | | | |
| I think that the brand meets all its legal obligations | | | | | |
| I think that the products and services provided by the brand comply with the regulations of our country | | | | | |
| I think that the brand meets all required regulations | | | | | |
| I think that the brand meets the expectations of society | | | | | |

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| I think that the brand respects the moral standards of our society | | | | | |
| I think that the brand will handle defective products to the satisfaction of consumers | | | | | |
| I think that the brand is trustworthy and reliable | | | | | |
| I think that the brand abides by its commercial ethical standards. | | | | | |
| I think that the band meets the expectations of society in the field of philanthropic activities | | | | | |
| I think that the brand organizes; or sponsors philanthropic activities | | | | | |
| I think that the band staff participates in philanthropic activities on a voluntary basis | | | | | |
| I think that the brand participates in public welfare activities | | | | | |
| I purchase products and services of the brand on a regular basis. | | | | | |
| I think that the brands promotional activities stimulate my purchasing desire | | | | | |
| I'm highly familiar with the brands product categories and items | | | | | |

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| I would recommend my friends or relatives to purchase Lie brands products or services | | | | | |
| I would tell other consumers about the advantages of buying the brands products and services | | | | | |

Lahore Journal of Business – Call for Papers

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Lahore Journal of Business (LJB), a peer reviewed publication of Lahore School of Economics, is aimed at providing a specialized forum for dissemination of qualitative and quantitative research in various areas of business administration. LJB invites researchers, policy makers and analysts to submit competitive theoretical and empirical papers that explore and contribute to the understanding of various areas in business domain. The Journal aims at bringing together state of art research findings, particularly from emerging markets, in various business disciplines including (but not limited to) accounting, banking, management, marketing, finance, investments, human resource management and organizational behavior.

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Contact Info

Ms. Sadia Tabassam
Assistant Editor, Lahore Journal of Business
Lahore School of Economics, Lahore, Pakistan
T +92 (0) 42 111-656-111 Ext. 286
ljb@lahoreschool.edu.pk

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