

PRIMARY RESEARCH

Performance Analysis of Islamic Banking in Pakistan Using DEA Technical Efficiency and *Maqāṣid al-Sharī‘ah* Index

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Abstract.

Purpose: The goal of Islamic banking is to offer Shariah compliant products along with ultimate objective of high performance.

Methodology: We use *maqāṣid al-Sharī‘ah* index (MSI) to assess the level of Sharī‘ah compliant and DEA technical efficiency score to measure the performance of Islamic banks in Pakistan. Results of efficiency and MSI scores are combined and plotted on four quadrants. Since the best bank is set as benchmark, the study provides relative results not absolute.

Findings: The study has four main findings based on the results. Meezan Bank falls in quadrant 1 which achieves highest level of technical efficiency and high level of MSI score. Bank Islami and Al-barakah Bank fall in quadrant 2 which depicts that both banks achieve high technical efficiency but low MSI scores. Dubai Islamic Bank falls in quadrant 3 having low score in technical efficiency and high score in MSI. Quadrant 4 has the lowest level in both the technical efficiency and MSI. None of the banks falls in this quadrant. Although, Meezan Bank achieves the highest level of MSI, nevertheless all banks are required to improve the MSI scores.

Originality/Significance: Large number of studies uses the DEA approach to measure the efficiency of Islamic banks. On the other hand, another set of research studies prefer MSI approach to determine the efficiency of Islamic banks. To the best of our knowledge, this is perhaps the first study in Pakistan, which uses both approaches to compare the technical efficiency and *maqāṣid al-Sharī‘ah* based efficiency of Islamic banks.

Practical and Social Implications: Since all Islamic banks are meant to achieve highest possible level of *maqāṣid al-Sharī‘ah*, the management of these banks has to focus on improving MSI scores along with highest technical efficiency.

KAUJIE Classification: B4, L25

JEL Classification: G21, L25

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INTRODUCTION

Islamic banking has shown a significant growth worldwide which attracts the industry experts. According to the Islamic Financial Services Board (IFSB) stability report (2020), globally Islamic banking industry achieved a growth rate of 12.7 percent during 2019 compared to the 9.6 percent growth recorded in 2018. Total assets of Islamic banking increased from USD1571.3 trillion in 2018 to USD 1765.8 trillion in 2019. As compared to their conventional counterparts, global Islamic banks achieved a relatively high return on equity (ROE) of 15.2 percent whereas conventional banks' ROE is 11.6 percent during 2019 (IFSB, 2020). This eye-catching growth rate and development of Islamic banking have been attracted the research focus of the academia and financial experts. A large volume of research has been conducted to assess the performance of Islamic banking (Beck et al., 2013; Bitar et al., 2016). Comparative studies of Islamic and conventional banks' performance and stability have also been the subject of the researchers' interest (Čihák & Hesse, 2010; Hussain & Muhammad, 2022; Miah & Uddin, 2017; Paltrinieri et al., 2021).

A major question is, however, whether Islamic banks are able to achieve the objectives of their existence. The purpose of Islamic banking is to offer interest-free and Sharī'ah-compliant products to Muslims particularly and all communities generally. Although Sharī'ah boards of Islamic banks certify the products and make sure that Islamic banks offer Sharī'ah-compliant services to their customers. Nonetheless, the question of the objectives of Sharī'ah (*maqāṣid al-Sharī'ah*) and its realization in Islamic banking is in debate. According to many contemporary scholars, the permissibility and validity of Islamic banking products and practices should be judged through the realization of *maqāṣid al-Sharī'ah* (Ahmed, 2011; Ayub & Paldi, 2015; Hanif & Farooqi, 2023; Kahf, 2006; Siddiqui, 2007). Lesmana & Haron (2019) suggest that Islamic banks' performance should not be measured with a conventional yardstick alone. Instead, the study proposes that *maqāṣid* based performance measures are appropriate for Islamic banks. Since DEA efficiency method is widely used to gauge the efficiency of banks by analysing input cost to output units. However, DEA does not measure that how good a bank is Islamic. For an Islamic bank it is essential to achieve cost efficiency as well as its image as good Islamic bank. We use *maqāṣid*-based performance indicators to determine that whether a bank is good or weak Islamic bank.

Based on the above concept of dual efficiency, the question we address in this research is whether Islamic banks in Pakistan are able to achieve both the goals of efficiency and Sharī'ah. Based on this major question we further compare the efficiency and Sharī'ah position of Islamic banks in Pakistan. To answer this question, we rank the banks on the basis of the above two objectives. Therefore, the work provides an insight into Islamic banks in Pakistan with regard to their efficiency and Sharī'ah position. It also helps to further extend the study on a large sample size from the globe and address the same questions.

The remaining paper is structured as follows. Section 2 provides the review of the relevant literature. Section 3 is devoted to explain the data and methodology. Section 4 demonstrates the results and section 5 concludes the results and suggests policy implication of the study.

LITERATURE REVIEW

This section of the study presents the background of our research question in light of the research literature. First, we provide the empirical and theoretical foundation for our work on the importance of efficiency and objectivity of Islamic banks. Then we develop the hypothesis on how our banks perform.

***Maqāṣid al-Sharī‘ah* based Index**

The concept of *maqāṣid al-Sharī‘ah* is not new in Islamic literature. Discussion on the importance of *maqāṣid* is stemmed from the writings of Al- Ghazali (d. 1262) and Al-Shatibi (d. 1388). According to many contemporary scholars the permissibility and validity of Islamic banking products and practices should be judged through the realization of *maqāṣid al-Sharī‘ah* (Ahmed, 2011; Kahf, 2006; Siddiqui, 2007). Bitar et al. (2016) suggests that Islamic banks' performance should not be measured with conventional yardstick alone. He proposes that *maqāṣid*-based performance measures are appropriate for Islamic banks. Based on the idea of *maqāṣid al-Sharī‘ah* performance measurement, Mohammed & Taib (2015) develop the *maqāṣid* index to assess the Sharī‘ah performance of Islamic banks. The study uses accounting data to calculate *maqāṣid* index which, according to the study, is suitable to measure the Sharī‘ah performance of Islamic banks.

Later on, Alhammedi et al. (2022), Antonio et al. (2012), Asutay & Harningtyas (2015), Bedoui & Mansour (2015), Saoqi (2017), and Sheikh Hussin et al. (2018) use the same index for the performance evaluation of Islamic banks. Few of the above discussed studies use both the conventional and *maqāṣid* based index and compared the conventional versus *maqāṣid* performance of Islamic banks. The literature summarizes the objectives of Sharī‘ah described by early scholars into three ultimate *maqāṣid*. These three are Tahdzib al-Fard, Iqama al-Adhl and Maslaha which are education, justice and benefit respectively.

The literature use some quantitative values for each of the above *maqāṣid* to measure the performance of Islamic banks. Further these three *maqāṣid* were measured by ten ratios calculated from the financial statements of Islamic banks (Antonio et al., 2012). The first *maqāṣid* (education) is measured by the investment or expenditures of a bank to educate their employees, train and develop their skills towards Islamic banking. It also includes the knowledge sharing and provision of information regarding Islamic banking and finance to all stakeholders. Research, training, publicity and development expenditures are used to calculate these ratios. The second objective is justice which means fairness, transparency, honesty and avoidance from interest, *gharar* and *maysir* in all banking transactions. To quantify this objective the ratios of fair return (PER), functional distribution and Sharī‘ah-compliant products are used. While the third objective of *maṣlaḥah* (benefit and welfare), is quantified by the ratio of investment in real economic sectors and investment for the welfare of society (Saoqi, 2017).

Numerous recent studies also use the same methods to compare the efficiency and *maqāṣid* based performance of Islamic banks in different countries. Hudaefi & Badeges (2022), Kartika et al. (2022), Mahyudin & Rosman (2022), and Tarique et al. (2021) use the *maqāṣid*

al-Sharī'ah Index along with other conventional methods to compare the performance of Islamic banks in different jurisdictions.

Data Envelopment Analysis (DEA)

Charnes et al. (1978) introduced Data Envelopment Analysis (DEA) based on previous work of Farrell (1957). It is a linear programming model to measure the efficiency of an organization. The DEA model for constant return to scale (CRS) became popular after the names of the researchers (Charnes, Cooper and Rhodes) CCR model. Later on, Banker et al. (1984) extended the work of CCR model and introduced another model known as BCC model (Banker, Charnes and Cooper). Both these models actually apply linear programming and allow output/input weighting to calculate efficiency scores. Bahrini (2017) finds that DEA assesses and compares each decision making unit with only the best performers by taking optimal weights between input and output elements.

Vincova (2005) suggests that measuring the efficiency of production units and identifying the sources of their inefficiency is a prerequisite for improving the performance of any productive unit in a competitive environment. A productive unit produces higher output by using certain inputs. Bank branches are the production units, they are homogenous in nature almost performing the same operations, therefore, having an impact on the overall efficiency of bank.

Wanke & Barros (2014) diagnose that cost efficiency is measured through the number of branches, the number of employees used to attain a certain level of administration and personnel expenses per year. Productive efficiency is measured through changes in equity and permanent assets. Performance analysis is considered to be an integral part of bank management practices in order to compute efficiency. Several other research studies use the same DEA technique to measure the cost efficiency of different business units (Abidin et al., 2021; Chen et al., 2017; Majeed & Zainab, 2021).

DATA AND METHODOLOGY

We used data from four full-fledged Islamic banks collected from the annual reports for this study. At the first step, we collected year-wise data from 2009 to 2018 for three input variables namely deposits, HR cost and fixed operating assets. Likewise, data for two output variables namely financing and investment extracted from the same sources. The data of input and output variables is used to run the analysis of technical efficiency. For the assessment of second parameter, *maqāṣid al-Sharī'ah*, a secondary source for data collection is used. This data is collected from annual reports of last ten years. As per SBP's Islamic Banking Bulletin (2018), there are overall twenty-one banks operating in Pakistan with three business models. These models are full-fledged Islamic banks, Islamic windows of conventional banks and standalone Islamic banking branches of conventional banks. There are 5 full-fledged Islamic banks in total but due to the non-availability of data of MCB Islamic for the period of 10 years, we excluded MCB and included only four banks for the analysis.

TABLE 1
Items of Financial Development (FSD)

S.NO	Bank Name	
1.	Meezan Bank Limited	(Included in Sample)
2.	Dubai Islamic (Pakistan) Bank Ltd	(Included in Sample)
3.	Bank Islami (Pakistan) Limited	(Included in Sample)
4.	Al Baraka Bank (Pakistan) Limited	(Included in Sample)
5.	MCB Islamic Banking	(Excluded from Sample)

Islamic Banking Bulletin, State Bank of Pakistan, September 2018

Selection of Variables and Test of Relationship

For our research, we use an intermediation approach where an Islamic bank is considered as financial intermediary which provides loans/investment to borrower and seek deposits from savers. So, in this approach deposits and the number of employees are used as an input variable to produce loans/investments and other earning assets. The intermediation is widely used in research because it evaluates Islamic banks as a whole while the production approach is more appropriate to evaluate branches which are considered as production units of banks.

Technical Efficiency using Data Envelopment Analysis (DEA)

Charnes et al. (1978) proposed DEA model for Constant Return to Scale (CRS) which become popular with researcher's name (Charnes, Cooper and Rhodes) CCR model, later on Banker et al. (1984) extended work of CCR model and introduced another model became known as BCC model (Banker, Charnes and Cooper). Both these models assess efficiency by using linear programming and allow output/input weighting to calculate efficiency scores. DEA provides a new definition of measuring efficiency. In numerous researches, this technique is commonly used to measure the efficiency of agriculture, health, energy, education, banking, insurance, transportation and many other sectors. Data compiled as per below format.

TABLE 2
Model Specification of Technical Efficiency

Input Variables			Output Variables			
Bank	Data Year	A1= HR/Staff cost	A2= fixed Assets	A3=Deposits	B1 = Financing	B2= Investments
xxx		xxx	xxx xxx	xxx		Xxx

Output Variables:

B1 = Total Investment/Loans= *ijārah* + *murābahah* + *mudārabah* + *mushārahah*

B2= Other Earning Assets= Investment in stocks, companies and real estate

Input Variables

A1= HR/Staff cost

A2= Book value of fixed Assets

A3= Deposits= *Murābahah* Deposits+ *mushārahah* Deposits+ Deposits of other banks

Standard Technical Efficiency Model

$$\sum_{j=1}^n \lambda_j a_{ij} \leq \theta a_{io} \quad i = 1, \dots, m;$$

$$\sum_{j=1}^n \lambda_j b_{rj} \geq \theta b_{ro} \quad r = 1, \dots, s;$$

$$\sum_{j=1}^n \lambda_j = 1 \quad \lambda_j \geq 0 \quad j = 1, \dots, n;$$

Interpretations of the model are given below in detail:

Efficiency scores = $\hat{\theta}_j$ for each decision-making unit, DMU_j, $j = 1, \dots, n$,

Inputs = a_{ij} ($i = 1, \dots, m$), (m are different input variable)

Outputs = b_{rj} ($r = 1, \dots, s$) (s are different output variables)

Some Assumptions under Variable Returns to Scale (VRS):

$\theta < 1$ means that the evaluated DMU is technically inefficient. $\theta = 1$ indicates a full technically efficient DMU. $\sum_{j=1}^n \lambda_j = 1$ is the convexity constraint.

Realization of *Maqāṣid al-Sharī‘ah*

Performance of full-fledged Islamic banks is assessed and compared based on Technical Efficiency and *maqāṣid al-Sharī‘ah* Index (MSI) scores. Earlier, this model is used by [Rusydiaana & Firmansyah \(2018\)](#) to assess the performance of Indonesian Islamic banks. We used same technique in context to Pakistan. We use four quadrants to distinguish the performance of the banks in our model.

Quadrant 1: High Efficiency, High MSI Score

Quadrant 2: High Efficiency, Low MSI Score

Quadrant 3: Low Efficiency, High MSI Score

Quadrant 4: Low Efficiency, Low MSI Score

Where Efficiency means technical efficiency and MSI stands for *maqāṣid al-Sharī‘ah* Index

***Maqāṣid al-Sharī‘ah* Index Concept & Model Specification**

There are three main objectives/elements of *maqāṣid al-Sharī‘ah*, these are education, justice and social welfare ([Antonio et al., 2012](#); [Azhar Rosly, 2010](#)). We calculated 10 ratios to reach on concluding number of MSI score. Weight-ages are multiplied to respective ratios and in the end, we get single ratio of MSI.

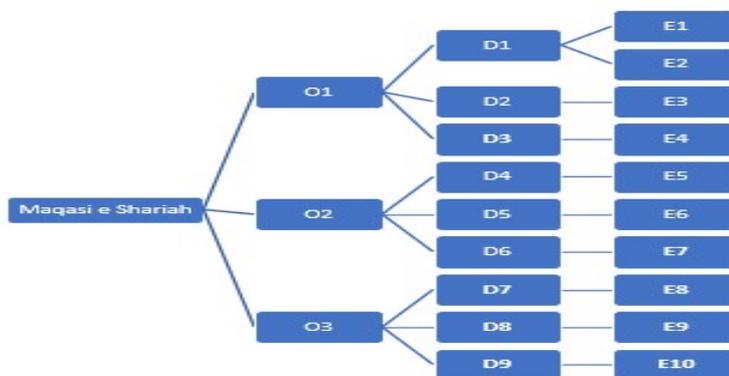


FIGURE 1. Assessment of *Maqāṣid al-Sharī‘ah*

O= Objectives = 3 objectives are Education, Justice and Social Welfare

D= Dimensions= 9 dimensions identified from 3 main objectives

E= Elements = MSI measured through 10 Elements/ratios.

TABLE 3
MSI Performance Ratios Measurement Criteria

Objectives	Dimensions	Elements	Financial Ratio
O1. Educating Individual	D1. Increasing the Knowledge	E1. Donation for Education	R1. Donation for Education/Total Charitable Income
		E2. Research	R2. Social Welfare/Total Charitable Income
	D2. Adding and Increasing the New Capability and Skill	E3. Training	R3. Workers Welfare Fund/ Total Cost
		D3. Creating Awareness Regarding Prohibition of Riba	E4. Publicity
O2. Creating the Justice	D4. Justice Agreement	E5. Fair Return	R5. Profit/Total Income
	D5. Product & Affordable Services	E6. Affordable Cost	R6. Uncollectible Account/Total Income
	D6. Eliminating Injustice	E7. Reasonable Service Fees	R7. Non-Interest Income/Total Income
O3. Achieving the Welfare	D7. Profitability Distribution	E8. Profitability Ratio	R8. Profit/Total Iktiva
	D8. Wealth Distribution & CSR	E9. Bank Income Distribution	R9. Zakāh/Net Profit
	D9. Investment in Real Sector	E10. Risk Sharing Modes Investment Ratio	R10. Profit & Loss Sharing Investment/Total Financing

Above data is based on annual reports

Total four Islamic banks are included in the analysis. Year-on-year results are calculated and compiled into single file so that further inference can be drawn. Assumption of constant returns to scale and variable return to scale used for cost minimization function which leads towards measurement of technical efficiency and scale efficiency. In data file shown in Table 5, two output variables financing and investment are shown in first two columns and input variables HR cost, fixed operating assets and deposits are depicted in subsequent columns. Since we calculate efficiency, DEA technical and scale efficiency input-oriented approach is used to get results. All the data is carefully aligned and set to avoid ambiguous results. Year-on-year files saved in the software to compile and report. Following Table 6 shows the results of technical efficiency for each bank.

TABLE 4
Weights Assigning Mechanism

Objectives	Weighted Mean (Scale 100%)	Elements	Weighted Mean (Scale 100%)
Education	30	Donation for Educations	24
		Research	27
		Training	26
		Publicity	23
		Total	100
Justice	41	Fair Distribution of Return	30
		Affordable Cost	32
		Reasonable Services Fees	38
		Total	100
Welfare	29	Islamic Microfinance Investment Ratio	33
		Bank Income Distribution	30
		Risk Sharing Modes Investment Ratio	37
		Total	100

Rusydiana and Firmansyah (2018)

TABLE 5
Results of Technical Efficiency

Year	Meezan Bank			Dubai Islamic Bank			Bank Islami			Albaraka Bank		
	CRS TE	VRS TE	SCALE	CRS TE	VRS TE	SCALE	CRS TE	VRS TE	SCALE	CRS TE	VRS TE	SCALE
2009	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.95	0.87	1.00	1.00	1.00
2010	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2011	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2012	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2013	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.88	0.95	1.00	1.00	1.00
2014	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.95	0.81
2015	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2016	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.95	0.93	1.00	1.00	1.00
2017	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.95	0.84	1.00	1.00	1.00
2018	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	1.00	0.89
Mean	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.97	0.96	0.97	1.00	0.97

As per mean value, Meezan bank and Dubai Islamic bank are highly efficient banks in terms of technical efficiency with 100 percent scores. However, the technical efficiency of Albaraka Bank stands at 96.5 percent on CRS assumption and 99.5 percent on VRS assumption. Bank Islami shows a lowest technical efficiency scores among four Islamic banks and stands at 93.4 percent on CRS assumption and 97.3 percent based on VRS assumption. Scale efficiency of both banks lies in between the results of both assumptions.

Results of *Maqāṣid al-Sharī'ah* Index (MSI)

Following tables show the results of MSI for each bank. The results show that Meezan bank stands at top having score of 0.37 followed by Bank Islami and Albaraka bank, both scoring 0.36 while Dubai Islamic bank remains the lowest in the industry with a score of 0.33. In order to reach quadrant analysis, we combined the results of technical efficiency and MSI.

Combined Results of Technical Efficiency and MSI

Before plotting the results over quadrant, first we calculate the average efficiency of the Islamic banking industry. In the same fashion, the average results of MSI are calculated

and then results of all four Islamic banks are plotted over the quadrants. These results are summarized in Table 11. The industry average of technical efficiency stands at 97.5% (sum of all efficiency score of Islamic banks divided by the number of participants), while MSI average remains at 0.355. (Sum of all MSI Scores divided by number of participants).

TABLE 6
MSI Results of Meezan Bank

30 Weight Assigned To Education				41 Weight Assigned to Justice			29 Weight Assigned to Welfare			MSI Score
Education				Creating Justice			Achieving Welfare			
0.24 R1. Do- nation for Educa- tion/ Total Char- itable Income	0.27 R2. So- cial We- lafre/ To- tal Char- itable In- come	0.26 R3. We- Workers Welfare Fund/Total Cost	0.23 R4. Pub- licity Cost/ Other Ex- penses	0.3 R5. Profit Dis- tributed/Total Income	0.32 R6. Uncol- lectible Amount/ Total Financing	0.28 R7. Non- Interest In- come/Total Income	0.33 R8. Profit/Total Income	0.3 R9. Zakāh/Net Profit	0.37 R10. Invest- ment/Financing	
0.250	0.285	0.007	0.048	0.492	0.000	0.237	0.492	0.059	0.527	0.320
0.867	0.057	0.007	0.081	0.538	0.000	0.303	0.538	0.046	1.014	0.420
0.000	1.000	0.004	0.016	0.481	0.0000	0.211	0.481	0.029	1.665	0.470
0.523	0.000	0.006	0.011	0.521	0.000	0.187	0.521	0.035	1.719	0.440
0.679	0.026	0.006	0.013	0.541	0.000	0.248	0.541	0.035	1.188	0.410
0.757	0.034	0.006	0.023	0.536	0.000	0.262	0.536	0.034	0.649	0.360
0.815	0.039	0.006	0.020	0.450	0.000	0.227	0.450	0.040	0.371	0.310
0.869	0.054	0.006	0.017	0.410	0.000	0.270	0.410	0.034	0.433	0.320
0.851	0.062	0.009	0.012	0.430	0.000	0.299	0.430	0.052	0.293	0.310
0.788	0.081	0.009	0.016	0.421	0.000	0.235	0.421	0.036	0.248	0.290
							Mean	0.37		

TABLE 7
MSI Results of Dubai Islamic Bank

30 Weight Assigned To Education				41 Weight Assigned to Justice			29 Weight Assigned to Welfare			MSI Score
Education				Creating Justice			Achieving Welfare			
0.24 R1. Do- nation for Educa- tion/ Total Char- itable Income	0.27 R2. So- cial We- lafre/ To- tal Char- itable In- come	0.26 R3. We- Workers Welfare Fund/Total Cost	0.23 R4. Pub- licity Cost/ Other Ex- penses	0.3 R5. Profit Dis- tributed/Total Income	0.32 R6. Uncol- lectible Amount/ Total Financing	0.28 R7. Non- Interest In- come/Total Income	0.33 R8. Profit/Total Income	0.3 R9. Zakāh/Net Profit	0.37 R10. Invest- ment/Financing	
0.000	0.414	0.002	0.010	0.495	0.000	0.166	0.495	0.190	0.137	0.270
0.000	0.799	0.000	0.007	0.523	0.000	0.159	0.5230	5.275	0.261	0.760
0.000	0.1666	0.004	0.011	0.517	0.000	0.216	0.517	0.210	0.542	0.310
0.000	0.029	0.004	0.010	0.494	0.000	0.195	0.494	0.111	0.811	0.310
0.000	0.120	0.005	0.010	0.461	0.000	0.193	0.461	0.266	0.705	0.310
0.100	0.250	0.005	0.015	0.456	0.000	0.215	0.456	0.073	0.310	0.270
0.043	0.172	0.005	0.015	0.469	0.000	0.216	0.469	0.107	0.227	0.260
0.050	0.418	0.005	0.009	0.451	0.000	0.231	0.451	0.055	0.290	0.280
0.274	0.000	0.005	0.014	0.405	0.000	0.244	0.405	0.023	0.347	0.260
0.256	0.000	0.007	0.008	0.455	0.000	0.217	0.455	0.014	0.299	0.260
								Mean		0.33

TABLE 8
MSI Results of Bank Islami

30 Weight Assigned To Education				41 Weight Assigned to Justice			29 Weight Assigned to Welfare			MSI Score	
Education				Creating Justice		Achieving		Welfare			
0.24	0.27	0.26	0.23	0.3	0.32	0.28	0.33	0.3	0.37	MSI	
R.1	Do- nation for Educa- tion/Total Char- itable Income	Social fare/Total Char- itable Income	R.3 Workers Welfare fund/Total Cost	R.4 Publicity Cost/Other Expenses	R.5 Profit Dis- tributed/Total Income	R.6 Uncol- lectable Amount/Total Financing	R.7. Non- Interest In- come/Total Income	R.8 Profit/Total Iktiva	R.9. <i>Zakāh</i> /Net Profit	R.10 Invest- ment/Financing	MSI Score
0.00	0.00	0.00	0.03	0.56	0.00	0.26	0.56	0.00	0.65	0.30	
0.16	0.70	0.00	0.02	0.54	0.00	0.11	0.54	1.11	0.82	0.46	
0.18	0.47	0.00	0.03	0.52	0.00	0.08	0.52	0.11	0.85	0.36	
0.12	0.39	0.00	0.03	0.59	0.00	0.18	0.59	0.12	1.06	0.39	
0.13	0.42	0.00	0.02	0.60	0.00	0.15	0.60	0.40	0.83	0.40	
0.15	0.47	0.00	0.02	0.57	0.000	0.16	0.57	0.27	0.75	0.38	
0.09	0.53	0.00	0.02	0.58	0.000	0.13	0.58	0.00	0.52	0.33	
0.08	0.77	0.00	0.02	0.57	0.00	0.13	0.57	0.34	0.60	0.38	
0.16	0.59	0.00	0.01	0.51	0.000	0.16	0.51	0.09	0.36	0.31	
0.01	0.13	0.00	0.02	0.50	0.00	0.17	0.50	0.52	0.33	0.30	
									Mean	0.36	

TABLE 9
MSI Results of Albaraka Bank

30 Weight Assigned To Education				41 Weight Assigned to Justice			29 Weight Assigned to Welfare			MSI Score	
Education				Creating Justice		Achieving		Welfare			
0.24	0.27	0.26	0.23	0.3	0.32	0.28	0.33	0.3	0.37	MSI	
R.1	Do- nation for Educa- tion/Total Char- itable Income	Social fare/Total Char- itable Income	R.3 Workers Welfare fund/Total Cost	R.4 Publicity Cost/Other Expenses	R.5 Profit Dis- tributed/Total Income	R.6 Uncol- lectable Amount/Total Financing	R.7. Non- Intrest In- come/Total Income	R.8 Profit/Total Iktiva	R.9. <i>Zakāh</i> /Net Profit	R.10 Invest- ment/Financing	MSI Score
0.00	0.00	0.01	0.08	0.65	0.02	0.31	0.65	0.00	0.36		
0.00	0.00	0.01	0.01	0.75	0.09	0.31	0.75	0.00	0.56	0.35	
0.24	0.34	0.00	0.01	0.75	0.000	0.22	0.75	0.17	0.90	0.42	
0.05	0.18	0.00	0.02	0.75	0.00	0.21	0.75	0.00	0.95	0.39	
0.16	0.54	0.01	0.63	0.71	0.00	0.25	0.71	0.00	0.61	0.43	
0.11	0.76	0.01	0.27	0.68	0.000	0.25	0.68	0.46	0.42	0.43	
0.10	0.45	0.01	0.01	0.60	0.00	0.21	0.60	0.28	0.36	0.34	
0.12	0.31	0.01	0.01	0.54	0.00	0.27	0.54	0.00	0.37	0.30.	
0.18	0.54	0.00	0.02	0.46	0.00	0.21	0.46	0.00	0.27	0.29	
0.09	0.63	0.00	0.01	0.48	0.00	0.21	0.47	0.00	0.28	0.29	
									Mean	0.36	

Quadrants of Islamic Banking Industry of Pakistan Based on MSI and Efficiency Scores

The quadrant diagram 3 shows the position each Islamic bank holds based on their performance of technical efficiency and *maqāṣid al-Sharī‘ah* Index.

Meezan Bank gets place in quadrant 1 with highest technical efficiency scores of 1.0 and 0.37 MSI scores. Based on highest scores on both levels, we set Meezan Bank as a benchmark for the industry. Dubai Islamic Bank having a score of 1.0 on technical efficiency and 0.33 on MSI, places in quadrant 2 which shows a highest technical efficiency which is equal to benchmark but a lowest MSI scores with comparison to other banks.

Bank Islami and Albarakah Bank find quadrant 3 having technical efficiency scores of 0.93 and 0.97 respectively which is quit bellow the industry benchmark. Whereas, both banks get 0.36 scores on MSI which is just bellow the benchmark.

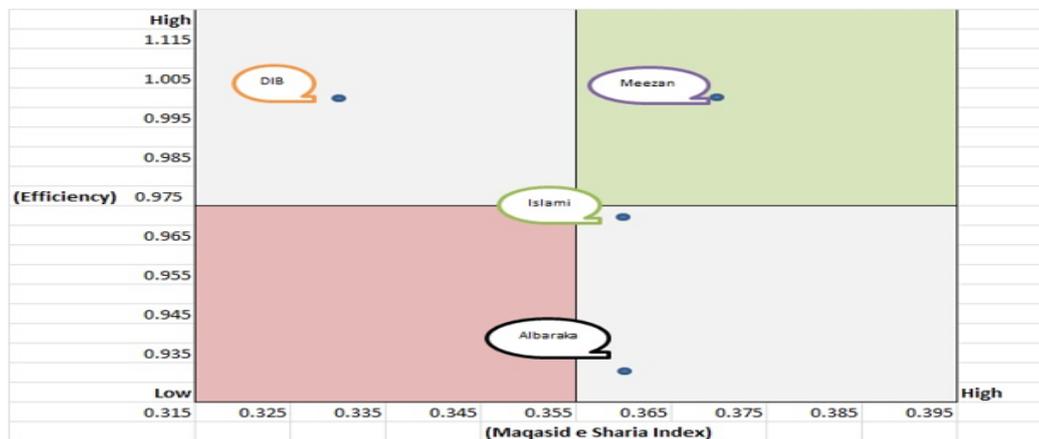


FIGURE 2. Quadrant Diagram of Islamic Banks

TABLE 10
Combined Results of Technical Efficiency and MSI

Year	Meezan Bank		Dubai Islamic Bank		Bank Islami		Albaraka Bank	
	Technical Efficiency Scores	MSI Scores						
2009	1.00	0.32	1.00	0.27	0.82	0.3	1.00	0.3
2010	1.00	0.42	1.00	0.76	1.00	0.46	1.00	0.35
2011	1.00	0.47	1.00	0.31	1.00	0.36	1.00	0.42
2012	1.00	0.44	1.00	0.31	1.00	0.39	1.00	0.39
2013	1.00	0.41	1.00	0.31	0.83	0.4	1.00	0.43
2014	1.00	0.36	1.00	0.27	1.00	0.38	0.77	0.43
2015	1.00	0.31	1.00	0.26	1.00	0.33	1.00	0.34
2016	1.00	0.32	1.00	0.28	0.88	0.38	1.00	0.3
2017	1.00	0.31	1.00	0.26	0.8	0.31	1.00	0.29
2018	1.00	0.29	1.00	0.26	1.00	0.3	0.89	0.29
Mean	1.00	0.37	1.00	0.33	0.93	0.36	0.97	0.36

Conclusion

This study is conducted to assess the efficiency and *maqāṣid al-Sharī'ah* achievement performance of Islamic banks in Pakistan. The study uses the data envelopment analysis method (DEA) to measure the technical efficiency and *maqāṣid al-Sharī'ah* Index (MSI) to measure *maqāṣid* based efficiency. The study has four main findings on the basis of results plotted on four quadrants. Bank falls in quadrant 1 is the best bank which achieves high level of technical efficiency and High level of MSI scores. Meezan Bank falls in Quadrant 1 which shows that Meezan Bank gets high efficiency and MSI scores. Dubai Islamic Bank falls in quadrant 2 having high technical efficiency but low MSI scores. Bank Albarakah and Bank Islami secure a place in quadrant 3, which shows good MSI score but low technical efficiency. None of the banks falls in quadrant 4 which is a highly risky area.

Based on the results, we recommend that Dubai Islamic Bank needs to improve its MSI score which is essential for any Islamic bank otherwise DIB can lose its image being good Islamic bank. Whereas, Bank Islami and Albarakah Bank are required to improve their technical efficiency which is backbone to achieve high performance. Both Bank Islami and Albarakah Bank can further improve their MSI score to reach the highest industry average. Although we set Meezan Bank as benchmark for the industry, however Meezan Bank and all other banks are required to improve their MSI scores. Since all Islamic banks are meant to achieve the highest possible level of *maqāṣid al-Sharī'ah*, the management of these banks has to focus on improving MSI scores along with the highest technical efficiency.

This model of technical efficiency and *maqāṣid al-Sharī'ah* achievement can further be used on a global data set of Islamic banks to rank Islamic banks internationally. Islamic banks, almost in all parts of the world, are recognized as Sharī'ah-compliant banks. Having Sharī'ah compliant is a minimum criterion for an Islamic bank which was set at the initial stage of Islamic banking in the world. Since Islamic banking is growing globally, there is a wider demand of the stakeholders that Islamic banks not only meet the minimum legal criteria of Islamic banking but they should move forward to achieve the higher purpose of Sharī'ah. Therefore, this study provides additional insight in Islamic banking industry's performance to achieve the objectives of Sharī'ah. The study is useful for the management, Sharī'ah advisors and regulators to assess the performance of the banks from both Sharī'ah as well as conventional perspective.

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