
Conventional vs. Islamic banks in dual-banking systems: business model, outlay stratagems and economic performance

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Abstract: Islamic banking and finance is a multitrillion-dollar industry, which offers interest-free banking arrangements that entail risk sharing and cater to all sections of society, thereby bringing about stability, equality and prosperity. Although the ethical underpinnings of the Islamic banking business model, guided by Shariah law, have enabled Islamic banks to compete successfully with conventional banks, there remains a paucity of work that examines the contributing factors to the corporate performance of Islamic and conventional banks operating in dual banking systems. This paper investigates the relative importance of the Islamic banking business model, alongside its conventional counterparts, in relation to financial and market-based performance. Based on empirical data gathered from Islamic and conventional banks operating in five Gulf Cooperation Council (GCC) member states with dual banking systems, the study reveals that human capital exerts a significant positive impact upon the financial performance (measured by ROAA) of both Islamic and conventional banks.

Keywords: dual banking systems; organisational resources; Islamic banking business model; ethical worldview; financial inclusion.

Reference to this paper should be made as follows: Nawaz, T. (2017) 'Conventional vs. Islamic banks in dual-banking systems: business model, outlay stratagems and economic performance', *Int. J. Business Governance and Ethics*, Vol. 12, No. 4, pp.330–348.

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1 Introduction

Many entities operate in the wider economic system to create and deliver value to various sectors of society. Every entity within each segment of the economy adopts its own operating model that enables it to compete effectively. In the financial services sector, banks have traditionally adopted the conventional banking business model, which

creates value (in financial terms, income) through the difference between interest rates, i.e., the interest rate paid to the depositors and the interest rate charged to the borrowers. Most of the interest-based financial products in the conventional banking business model are perceived as high-risk, where risk is transferred to the borrowers, which can trigger economic turbulence as observed in the recent global financial crisis.

While critics largely blame the real estate market, which created the financial bubble, they have also held the financial system as a whole accountable for the worst financial malaise of modern human history. Such a blanket approach, however, may not be accurate, as the financial crisis brought alternative banking models into the limelight. One such banking system, based on ethical values, is the Islamic banking business model. Islamic banks are an integral part of the Islamic economic system, which abides by the Islamic *Shariah* law. *Shariah* defines the rule of economic engagement for such institutions. The main features of the Islamic banking business model are:

- 1 interest-free banking: charging or payment of interest is *haram* (forbidden)
- 2 profit-and-loss-based financing: capital is extended on the basis of sharing the risk as opposed to transferring the risk
- 3 legitimate business activities: financing of illicit activities such as alcohol, pornography, armaments, etc. is not permitted and
- 4 *Shariah* governance: Islamic banks, in theory, are co-governed by the *Shariah* scholars who legitimise all their operations.

These features suggest clear differences between the conventional and Islamic banking business models.

Islamic banks entered the mainstream financial system in 1975 with the establishment of the first Islamic bank in the Gulf Cooperation Council (GCC) region. Since then, the industry has expanded itself to become the fastest-growing segment in the field of finance. Islamic banking and finance has maintained a sustained average growth of 12.5% since the start of the new millennium (Ernst and Young, 2013). Islamic banking services are not limited to Muslim countries alone: Islamic banking has expanded its operations to the West to cater to the needs of those looking for ethical financial solutions (Nawaz, 2015, 2013). Islamic financial institutions offer financial services in developed western countries across continents, i.e., Australia, France, Germany, the UK and the USA. There are four full-fledged Islamic banks operating in the UK, offering commercial and investment services to their clientele. Despite this expansion, the GCC region remains the Islamic banking hub.

The GCC consists of six permanent member states, namely Bahrain, Kuwait, Oman, Saudi Arabia, Qatar and the United Arab Emirates. Several features distinguish the GCC banking sector from those of other regions. First, the sector serves the biggest petrodollar economies in the world. Second, the region's concentration on construction, real estate and consumer loans offers a unique opportunity to study its banking industry. Third, banks operating in the region are heavily protected from foreign competition and dominated by their respective governments. Fourth, banking is one of the largest sectors in GCC economies: there are more bank stocks traded in GCC stock markets than stocks of any other industry (Olson and Zoubi, 2008). Finally, being the birthplace of Islamic banking with a dual banking system, the region offers an ideal setting for research. As a

result, a sizeable body of research has examined various aspects such as the structure (Essayad and Madani, 2003), operation (Murjan and Ruza, 2002), ethical compliance (Haniffa and Hudaib, 2007) and management (Islam, 2003) of banks in the GCC region. However, the determinants of financial and market-based performance of banks operation in the region remain unexplored to date.

Against this background, this study explores the determinants of sustainable economic performance (based on financial and market-based performance) of two sets of banks, *vis.* Islamic and conventional, operating in dual banking systems for the period of 2011–2015. Based on empirical data gathered from 31 Islamic and 31 conventional banks operating in five GCC member states, the study reveals the relative importance of the Islamic banking business model.

The paper is organised as follows. The roots of Islamic banking are traced in Section 2 by exploring the Islamic worldview. Following the Islamic ethical worldview, hypotheses are developed. The research method is described in Section 3 and an empirical analysis is presented in Section 4. The research findings are briefly discussed in Section 5. The paper concludes with a discussion of the research and suggestions of new avenues for future research.

2 Bank operating models

- *Conventional bank*: the term ‘conventional’ usually refers to the conservative and low-risk banking; however, in this paper, the term ‘conventional banking’ refers to the financial institutions that have long formed the majority of the financial infrastructure and are not specifically based on Islamic *Shariah* law, echoing Schoon (2016).
- *Islamic bank*: an Islamic bank is a full-service intermediary financial institution that abides by the Islamic *Shariah* law in all its operations *vis.* products and services. Iqbal et al. (2001, p.31) further clarify that “an Islamic bank is a deposit-taking banking institution whose scope of activities includes all currently known banking activities, excluding borrowing and lending on the basis of interest.”¹

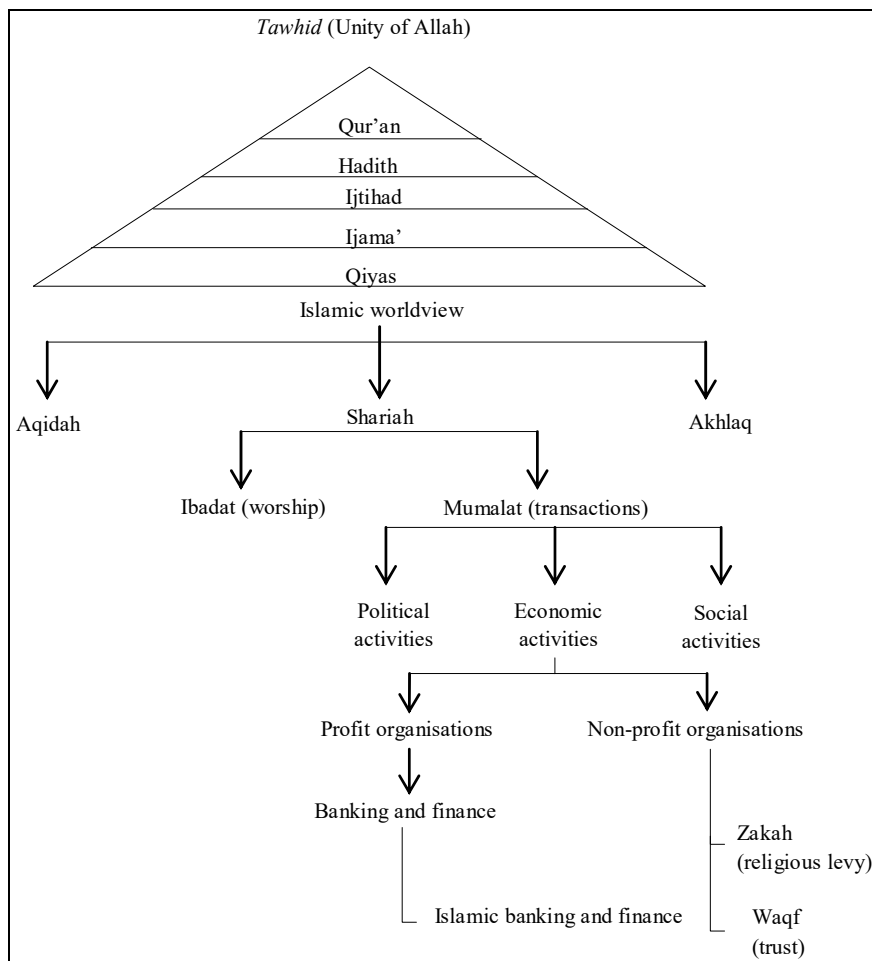
The key function of a financial system is to mitigate information asymmetry and reduce transaction costs. The core functions of financial institutions such as banks are to acquire and process information, facilitate savings mobilisation, allocate funds efficiently and encourage effective corporate governance (Levine et al., 2000). The extant literature analysing the impact of financial systems on economic development (e.g., Berger et al., 2004; Levine et al., 2000) suggests that efficient financial intermediation can spur capital productivity and foster economic growth (Christopoulos and Tsionas, 2004). This signifies the role of banks in an economy.

Hasan and Dridi (2010) explain that, while conventional intermediation is largely debt-based and allows for risk transfer, Islamic intermediation is asset-based and centres on risk sharing. Along with providing Islamic banks with additional buffers, these features make their activities more closely related to the real economy and tend to reduce their contribution to excesses and bubbles. Therefore, it is imperative to comprehend the basic roots of Islamic way of banking.

2.1 The Islamic worldview

A worldview is generally understood as a set of beliefs about fundamental aspects of reality that ground and influence all our perceiving, thinking, knowing and doing (Abdullah and Nadvi, 2011). The Islamic worldview is basically a theistic and ethical worldview which contrasts sharply with the secularist or atheistic alternatives (Nawaz, 2017b). There is no bifurcation of the world or duality in the Islamic worldview. The Islamic worldview is based on three pillars, namely *Allah* (the God), the *Qur'an* (the word of Allah) and *Hadith* (sayings, approvals and actions of the prophet Muhammad, PBUH, in his lifetime) (Haniffa and Hudaib, 2002).

Figure 1 Islamic worldview and sources of Shariah



The individual and societal life of a Muslim is governed by certain sets of rules defined in *Shariah*. Islam makes no distinction between religion and daily life. According to Islamic belief, the *Qur'an* is a complete code for human life. The guidelines provided in *Shariah* are not confined to religious matters alone; they give advice on all aspects of human life.

Islam may be perceived as comprising three basic elements or sets of rules. The first, known as *Aqida* (faith), deals with the core relationship between man and his creator (*Allah*). It is concerned with all forms of faith and belief by a Muslim in *Allah* alone and his will. Like any ordinal structure, the stability and strength of Islam is founded on five pillars, namely *shahada*² (the profession of faith), *salat*³ (daily prayer), *zaka*⁴ (almsgiving), *sawm*⁵ (fasting) and *hajj*⁶ (pilgrimage) (see Ayub, 2009; Iqbal and Mirakhor, 2011). The second set, *Akhlaq* (morals and ethics), is concerned with the behaviour, attitude and work ethics according to which a Muslim lives in society. The third and final set of rules is concerned with transforming and manifesting the faith and beliefs into action and daily practices, formally known as *Shariah* (for details, see Figure 1).

Shariah, being the practical aspect, provide guidelines for everyday life. Furthermore, it is divided into two components. The first is *Ibadat* (worship); *Shariah* advises on the practicalities of ways to perform rites and rituals, recognising the relationship between man and God. The second is *Muamalat* (transactions or man-to-man activities). This includes rules to govern social, political and economic activities. Economic activities, of course, include the commercial, financial and banking system. Islamic banking is a part of this system.

Thus, banking and finance activities can be traced through the economic activities, back to daily life dealings and finally to *Shariah*, the ultimate knowledge source for Islamic banking. According to Spender and Grant (1996), when a firm's main resource is perceived to be knowledge, its creation is critical for firm performance and competitive advantage (Nonaka and Takeuchi, 1995). In this context, assets related to knowledge that are perceived as key drivers for a sustainable competitive advantage are often referred to as intangibles or intellectual capital (see Subramaniam and Youndt, 2005). Intellectual capital mainly consists of two major components: human capital and structural capital, which are recognised as two distinct resources for the success of an organisation (Edvinsson and Malone, 1997). The former is grounded on the knowledge created and stored by a firm's employees, while the latter is based on the embodiment, empowerment and supportive infrastructure of human capital. Hsu and Wang (2012) explain that human capital can leave the firm whenever it desires, since the firm does not own it. Structural capital, on the other hand, is knowledge that has been converted into something owned by the firm (e.g., a patent). The implementation of structural capital relies on human capital, and the quality of human capital determines the quality of structural capital. Taking the argument together, it is imperative to analyse the effect of investments in both human and structural capital resources on firms' performance.

2.2 Development of hypothesis

The resource-based view (RBV) of a firm suggests that sustainable competitive advantages require the firm to create and maintain strategic resources (Peteraf, 1993; Wernerfelt, 1984). Amit and Schoemaker (1993) further clarify that a firm's profitability is determined by the specific type, magnitude and nature of these strategic resources. Precious studies argue that value creation in the knowledge-intensive sectors such as the banking industry requires investments in multidimensional knowledge resources (Chen et al., 2014; Watson and Holland, 2010). Watson and Holland (2010) reveal how investments in multiple organisational resources impact on the value creation process in banking. Chen et al. (2014, p.566) regard "knowledge-based intangibles as the primary

sources of sustainable competitive advantage in banking.” Generally, researchers agree that knowledge assets such as human capital play a crucial role in generating firm performance (Swart and Kinnie, 2013). Human capital cannot work alone; hence, it requires structural support (Ongena and Smith, 2001). This argument is in line with the economic perspective (see Bhagwati, 2011) which argues that erudite human capital and strongly normative structural capital are essential to determine market behaviour.

2.2.1 Human capital and performance

With the advent of the knowledge economy, the nurturing of knowledge workers has become necessary for firms to gain and sustain competitive advantage in the market (Hislop, 2013; Nawaz, 2016). Swart (2006) suggests a distinction between firm-specific and industry-specific human capital investments. The latter refers to investments in knowledge held by individuals which can be exchanged within a specific industry (Kang and Snell, 2009), e.g., knowledge of contemporary finance that can be transferred within the banking sector between conventional and Islamic banks. The former, meanwhile, refers to investments in knowledge embedded in employees to provide an organisation with a unique product or service that is not easily replicated by competitors (Kim and Gong, 2009), e.g., *Shariah* knowledge. Swart (2006), however, observes that an organisation tends to invest in firm-specific human capital resources as workers become affiliated with the firm, thereby sacrificing mobility opportunities. Since IBs offer financial products and services that are compatible with Islamic doctrine, they need to invest equally in both firm- and industry-specific human capital, as it is desired for employees to excel in both economic and *Shariah* knowledge. This is supported by earlier research, which shows that investments in human capital affect a firm’s ability to absorb new external knowledge, including that of alliance partners (e.g., Cohen and Kaimenakis, 2007; Nawaz, 2017d).

Human capital is very important for IBs, as it is desired that employees have conventional banking knowledge and skills related to the provision of such services but also have good knowledge on *Shariah*, as this will enhance the credibility and reputation of IBs in the marketplace (Nawaz, forthcoming). Knowledge embedded in the human capital pool held by Islamic banks is unique, rare and not easily replicable (Nawaz, 2017a). Recalling the argument of resource-based theory, the following hypotheses are drawn:

Hypothesis 1 Human capital relates positively with market performance of IBs.

Hypothesis 2 Human capital relates positively with financial performance of IBs.

Hypothesis 3 Human capital relates positively with market performance of CBs.

Hypothesis 4 Human capital relates positively with financial performance of CBs.

2.2.2 Organisational capital and performance

Previous studies have argued that human capital cannot work alone and must therefore rely on other supporting mechanisms such as structural/organisational capital resources (Swart, 2006). Organisational capital provides an environment that enables a firm to create and leverage knowledge. Florin et al. (2003) state that an organisation with strong investment tendencies in structural capital will have a supportive culture that encourages

employees to try and gain new knowledge. Likewise, De Brentani and Kleinschmidt (2004) report that an organisation's operation processes and its commitment of sufficient resources have a significant impact on performance. A similar suggestion comes from Youndt and Snell (2004), who found investments in structural capital to be typically associated with financial returns and Tobin's Q.

IBs adopt different structural processes and systems to track and record their transactions⁷; hence, such institutions depend heavily on organisational capital to enhance their performance. In a pioneering study, Nolan (1994) found organisational capital, i.e., technological capabilities, to be a significant differentiator of banks' quality levels of performance in the mid-1980s. Furthermore, IBs adopt a rare structural mechanism, which is not imitated by their conventional rivals. This argument is in line with the RBV of the firm, which attributes superior economic performance to organisational resources and capabilities (Bharadwaj, 2000). Since RBV explicitly recognises the importance of tangibles and intangibles, it offers a significant opportunity to explore these theoretical complementarities in examining the relationship between investments in organisational resources and the economic performance of the two banking models. Therefore, the next set of hypotheses is as follows:

Hypothesis 5 Organisational capital relates positively with market performance of IBs.

Hypothesis 6 Organisational capital relates positively with financial performance of IBs.

Hypothesis 7 Organisational capital relates positively with market performance of CBs.

Hypothesis 8 Organisational capital relates positively with financial performance of CBs.

3 Methodology

3.1 Sample and data

This study used Orbis Bank Focus database to identify the conventional and Islamic banks operating in the GCC region. Missing data were hand-collected from annual reports and other publicly available resources of the selected banks. This is consistent with the suggestion of Wyatt and Frick (2010) who argued that, in the absence of market prices for organisational resources such as human capital, the best approximation for its value is a measurement procedure based on a firm's income statement data. After eliminating banks with insufficient data, a sample comprising 62 individual banks (31 IBs and 31 CBs) and 310 firm-year observations for the fiscal years 2011–2015 was selected. Out of the sampled 62 banks, 21 conventional and 17 Islamic banks were listed and their market value calculated accordingly for the empirical analysis.

3.2 Dependent variable

Considerable empirical evidence suggests that investments in organisational resources have positive effects on banks' overall performance. Following previous studies (e.g., Hasan and Dridi, 2010; Jordan et al., 2011; Nawaz, forthcoming), two distinct performance measures – Tobin's Q and return on average assets (ROAA) – have been

employed here to measure banks' market and financial performance, respectively. Tobin's Q is computed as the sum of market capitalisation and book value of liabilities divided by total assets, whereas ROAA is calculated as the net income available to stockholders divided by total assets.

3.3 Independent variables

Given the low level of transparency in Islamic banks (Haniffa and Hudaib, 2007), it was fairly challenging to develop a proxy to measure investments in human and organisational capital. Previous studies conducted in the context of conventional financial institutions have reported a positive relationship between investments in human capital and bank performance (Lajili and Zeghal, 2006; Wyatt and Frick, 2010). Following the previous studies, total investment in human capital (IHC) was calculated here as a natural logarithm of total staff budget, including salaries, training and recruitment expenses. Similarly, investments in organisational capital are reported to have a systematic effect on firms' performance (Bandeiral and Afonso, 2010; Coombs and Bierly, 2006). Such investments are generally measured using R&D expenditures (Bandeiral and Afonso, 2010) or technological (i.e., IT) expenditures (Coombs and Bierly, 2006). Given the nature of this study and its use of financial data, combining R&D and IT expenditures is a suitable proxy to measure investments in structural capital. The proxies used in this study are informed by previous research (see Sydler et al., 2014). Furthermore, the study controls for bank size, proxied by the natural logarithm of total capital and leverage for their potential impact on performance. The above-mentioned measures are used as a proxy for outlay stratagems in the conventional and Islamic banking business models.

4 Analysis and results

4.1 Descriptive statistics

Table 1 reports descriptive statistics for selected firm characteristics, including mean, standard deviation, minimum, maximum, skewness and kurtosis for all variables used in the main analysis.

Focusing first on Panel A, the results suggest a strong overall performance for sampled IBs. The mean value of 1.03 for Tobin's Q suggests that IBs possessed a strong market performance during the study period. Similarly, the average financial performance, ROAA with a mean of 0.57, suggests that IBs offered strong returns on assets.

As for the continuous independent variables, it can be seen that the average mean of IHC and investment in organisational capital (IOC) are .68 and 0.29 respectively, suggesting that sampled IBs were generally efficient in maintaining financial returns and market performance through investments in human and organisational capital resources. As for firm-related control variables, the average size (measured, using log of total assets) of sampled IBs is 13.9. The minimum 5.4 and maximum 73.1 values suggest risk trends in IBs. Similar trends can be observed for firm complexity, measured by number of existing subsidiaries.

Table 1 Correlation matrix and descriptive statistics

<i>Panel A: Islamic banks</i>											
<i>Variables</i>	<i>Mean</i>	<i>Std.</i>	<i>Min.</i>	<i>Max.</i>	<i>Skew.</i>	<i>Kurt.</i>	<i>I</i>	<i>2</i>	<i>3</i>	<i>5</i>	
1 Tobin's Q	1.031	0.585	0.9874	1.091	-1.387	2.897	1.000				
2 ROAA	0.565	2.265	-3.810	3.809	-0.254	2.182	0.208				
3 IHC	0.683	0.514	-0.281	2.898	-0.216	1.485	0.525	0.640			
4 IOC	0.296	0.106	0.167	1.052	-0.358	1.675	0.371	0.191	0.462		
5 LnBSize	13.897	3.786	9.897	15.952	-0.653	3.085	0.577	0.348	0.482	0.296	
6 Lev	44.252	19.367	5.389	73.086	0.141	2.207	-0.172	-0.081	-0.050	-0.246	0.050
<i>Panel B: Conventional banks</i>											
<i>Variables</i>	<i>Mean</i>	<i>Std.</i>	<i>Min.</i>	<i>Max.</i>	<i>Skew.</i>	<i>Kurt.</i>	<i>I</i>	<i>2</i>	<i>3</i>	<i>5</i>	
1 Tobin's Q	0.967	0.585	0.674	1.091	-0.982	3.124	1.000				
2 ROAA	0.436	2.776	-3.810	3.809	-0.358	1.738	-0.047				
3 IHC	0.109	1.125	-0.264	1.997	-0.421	2.037	-0.023	0.587			
4 IOC	0.038	0.077	0.035	1.032	-0.442	3.614	0.328	0.443	0.520	0.062	
5 LnBSize	19.055	5.463	11.987	16.879	-0.897	1.098	0.044	0.343	0.334	0.037	0.517
6 Lev	43.557	24.32	5.632	89.635	-0.023	1.698	0.044	0.334	0.037	0.517	

Notes: Tobin's Q = market capitalisation + total liabilities / total assets. ROAA = net income / average total assets. IHC = natural logarithm of total staff expense; IOC = natural logarithm of total R&D and IT expenditures. Bank size (LnBSize) = log of total assets and leverage (Lev) = total debt / total assets. Pearson correlations significant at the 1% level are shown in italic.

Turning to the CBs, results reported in Panel B of Table 1, it can be seen that the average market performance of CBs is slightly lower than IBs with a mean Tobin's Q of 0.97. Similarly, the mean ROAA of 0.44 for CBs suggests that IBs remained more profitable than their conventional counterparts during the study period. As can be seen in the second column of Table 1 in Panel B, the average IHC and IOC in conventional banks are also comparatively lower at 0.11 and 0.04, respectively. However, the positive values indicate the sources of corporate performance in conventional banking system. Fractional differences in the control variables suggest some difference between the two systems of banking.

4.2 Correlation analysis

This paper uses Spearman correlations matrix and VIF tests to test for the existence of multicollinearity between the examined independent variables. Table 1 also presents correlation results between the dependent variable and the independent variables.

Again, looking at the results for IBs, illustrated in Panel A of Table 1, it can be seen that both performance measures relate positively with IHC, indicating that investments in human capital enhance firms' market performance. However, only Tobin's Q relates with IOC, suggesting that, although markets appreciate investments in structural resources, such investments may take some time to mature.

Interestingly, no association between IHC and market-based performance of CBs can be observed. The results are reported in Panel B of Table 1. The negative (insignificant) relationship suggests that markets perceive human capital investment as an expense and put a negative value on it. However, the positive association between ROAA and investments in organisational resources suggest that CBs' tendency to invest in human and organisational capital resources increases the financial returns.

As for firm-specific variables, bank size (BSize) relates positively and significantly with Tobin's Q and ROAA, but only for IBs. While observing these relationships, no multicollinearity can be seen. Heteroscedasticity was also tested using White's test. The results do not suggest a threat of heteroscedasticity

4.3 Multivariate analysis

Before running the regression, an analysis of residuals was conducted, with plots of the studentised residuals against predicted values, and they indicated no problems of homoscedasticity and linearity. Residuals of standard tests on skewness and kurtosis indicated some problems with the normality assumption for one of the variables and were transformed accordingly, using a natural logarithm to get the best fit. To examine the impact of investment strategies in organisation resources (i.e., human and structural capital) on economic performance of Islamic and conventional banks, the following panel regression specifications were estimated.

$$\text{Performance} = \alpha + \beta_1 \text{IHC} + \beta_2 \text{LnBSize} + \beta_3 \text{Lev} + \varepsilon \quad (1)$$

$$\text{Performance} = \alpha + \beta_1 \text{IOC} + \beta_2 \text{LnBSize} + \beta_3 \text{Lev} + \varepsilon \quad (2)$$

Model 1 is used to examine the impact of investments in human capital resources and economic performance (measured by Tobin's Q and ROAA) of IBs and CBs, whereas the impact of investments in structural capital resources on corporate performance of sampled banks is examined using Model 2.

4.3.1 Outlay stratagems and economic performance of Islamic banks

Table 2 reports the estimation results of parsimonious versions of Model 1 and Model 2 with Tobin's Q and ROAA as the dependent variable for IBs.

Table 2 Cross-sectional OLS regression of Tobin's Q and ROAA on IHC, IOC and control variables for IBs

	<i>Market performance (Tobin's Q)</i>		<i>Financial performance (ROAA)</i>	
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 1</i>	<i>Model 2</i>
N	85	85	155	155
IHC	0.0624***		0.956***	
IOC		0.23		0.725
LnBSize	0.0841***	0.113***	-0.0445	0.538**
Lev	-0.00231**	-0.00210**	-0.00357	-0.00806
Constant	-0.539	-0.935***	-1.800	-7.791***
Adj. R ²	0.456	0.395	0.430	0.116
R-squared	0.4771	0.4182	0.4521	0.1496
F-value	34.11***	31.11***	29.20***	5.27***

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Focusing first on the results of Model 1, reported in the second and fourth columns of Table 2, the estimated coefficients for IHC are positively and statistically significant with Tobin's Q at the 1% level, thereby suggesting that investments in human capital could spur IBs' market performance. Therefore, consistent with hypothesis H₁, the estimates indicate that investments in human capital have positive effects on the market performance of IBs. Thus, hypothesis H₁ is supported. Similarly, results reported in the fourth column of Table 2 indicate a statistically significant positive relationship at the 1% level between financial-based performance of IBs and IHC. Thus, hypothesis H₂ is supported.

Results from Model 2, reported in the third and fifth columns of Table 2, show insignificant relationships between investment in structural capital and performance indicators, i.e., Tobin's Q and ROAA. These results do not lend support for hypotheses H₅ and H₆.

The estimated coefficients for firm-specific control variables suggest that the market performance of IBs increases with firm size and firm complexity and decreases with level of risk. However, the financial performance (ROAA) of IBs is mainly driven by number of existing subsidiaries.

4.3.2 Outlay stratagems and economic performance of conventional banks

Table 3 reports the estimation results of parsimonious versions of Model 1 and Model 2 with Tobin's Q and ROAA as the dependent variable for CBs.

Table 3 Cross-sectional OLS regression of Tobin's Q and ROAA on IHC, IOC, and control variables for CBs

	<i>Market performance (Tobin's Q)</i>		<i>Financial performance (ROAA)</i>	
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 1</i>	<i>Model 2</i>
N	105	105	155	155
IHC	-0.0072		0.773***	
IOC		0.328**		0.256
LnBSize	0.0955***	0.0735***	0.0790	0.254*
Lev	-0.0003	-0.00406***	0.0110	-0.0103
Constant	-0.461*	-0.29	-3.678**	-2.911
Adj. R ²	0.26	0.301	0.492	0.028
R-squared	0.277	0.3199	0.5036	0.0538
F-value	8.88***	24.64***	61.67***	1.69

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

As above, Model 1 is used to measure the impact of IHC on market and financial-based performance of CBs. Results from the model illustrated in the second column of Table 3 indicate a negative relationship between IHC and Tobin's Q; however, the relationship is not statistically significant. Thus, hypothesis H₃ is rejected. On the other hand, results from Model 1, reported in the fourth column, show a significant relationship at the 1% level between IHC and financial performance of CBs, supporting hypothesis H₄.

Turning to Model 2, the results reported in the third and fifth columns of Table 3 show that IOC relates with market-based performance of CBs at the 1% level; however, the same relationship is not significant with ROAA. Thus, hypothesis H₅ is accepted whereas hypothesis H₆ is rejected.

On the other hand, the market performance of CBs increases with bank size and decreases with higher leverage and number of subsidiaries, whereas number of existing subsidiaries helps CBs strengthen their financial returns.

5 Discussion of findings

The analysis suggests that, although Islamic banks constantly made investments in their human and organisational capital resources, human capital is the main determinant of economic performance for such banks. On the other hand, the market value of conventional banks is mainly driven by investments in organisational capital resources, whereas IHC is the main determinant of financial performance for conventional banks.

The hypotheses that expected IHC to be positively related to market-based performance are supported for Islamic banks. These findings are in line with the previous research into the relationship between IHC and firms' market value (Boselie et al., 2001; Bosma et al., 2004; Colombo and Grilli, 2005; Nawaz, forthcoming; Rafiki et al., 2014; Subramaniam and Youndt, 2005). These findings indicate that the Islamic banking business model, which is based on ethical values defined by *Shariah* law, requires additional knowledge resources to interpret and employ *Shariah* in practice; therefore, these banks constantly invest in their human capital-base, which reflects positively on their market performance.

A possible interpretation of the significant relationship between IHC and performance of IBs is that newly developed services must not violate divine guidelines. Thus, consistent with Dotzel et al. (2013), it is argued that service innovativeness in Islamic finance is enabled primarily by IHC, which has positive effects on their market and financial performance. This interface finds support in the earlier studies (i.e., Chen et al., 2014; Mention and Bontis, 2013; Watson and Holland, 2010), which reported that IHC contributes both directly and indirectly to business performance in the banking sector.

The insignificant relationship between IHC and market performance of CBs may be explained by the fact that markets perceive such institutions as mature and as spending less on developing their human capital, unlike their counterparts the IBs. Khan and Bhatti (2008) observe that IB personnel are neither properly trained nor devoted to learning and practising *Shariah*-compliant banking. Therefore, IBs have to train their staff to realise the true objective behind *Shariah*-compliant banking, which involves more than just elimination of interest. Another possible interpretation of the results is that the market may not perceive the human capital running CBs as ethical⁸ due to their pursuit of profit maximisation, as opposed to IBs, which strive for ethical identity (Nawaz and Haniffa, 2017).

The second set of hypotheses, which expected IOC to be positively associated with the financial and market-based performance of both sets of banking, is also supported for CBs. These findings are in line with the previous research, which suggested that investments in structural capital, i.e., IT, lead to higher market performance of banks (De Brentani and Kleinschmidt, 2004; Hsu and Wang, 2012; Nolan, 1994). The relationship between IOC and performance of IBs is insignificant. A possible explanation of these results is that the Islamic finance industry is growing rapidly (Ernst and Young, 2013; Johnes et al., 2014), hence acquiring both tangible and intangible structural capital resources. The cost of such acquisition is higher at the moment; therefore, it is reflected as insignificant in the results. However, over time, once Islamic finance industry reaches the stability stage, investments in structural capital are expected to relate positively with IBs' performance.

As for the control variables, firm size (positively) and level of risk (negatively) relate with both sets of banking. This suggests that the market performance of banks increases with firm size and decreases with level of risk. This is in line with the previous studies in the context of Islamic financial institutions (see Čihák and Hesse, 2010; Majid et al., 2010).

The sampled countries are predominantly Muslim-majority countries with dual banking systems. Investors from these countries may seek profitable financial activities while not violating their religious beliefs. Since IBs are not authorised to engage in speculative activities, they must act as agents of their investment account holders by allocating their savings to profitable projects (Beck et al., 2013; Gheeraert, 2014). In doing so, IBs could potentially encourage financial inclusion (Nawaz, 2017c) by reaching out to Muslims who avoid conventional borrowing and lending instruments (Abdullah and Nadvi, 2011). This also suggests the relative importance of the Islamic banking business model in a dual banking system.

6 Conclusions

The main contribution of this paper is to examine the impact of outlay stratagems (i.e., investments in human and organisational capital) on the financial and market-based performance of 62 Islamic and conventional banks (31 from each category) operating in the dual banking systems of five GCC member states for the period of 2011–2015, while controlling for bank size and leverage.

As argued in the paper, although Islamic banking originated in a Muslim region, such banks endeavour to cater to the needs of all sectors of the society and are not partial to Muslim customers alone. This study has attempted to examine and identify the determinants of corporate performance for two sets of banks that follow two different banking business models. In doing so, the paper traced the ethical underpinnings of the Islamic banking business model to clarify the differences in the philosophies of the Islamic and conventional banking business models. The paper then measured the impact of investments in organisational resources on the financial and market-based performance of Islamic and conventional banks operating in the dual banking systems of the GCC region. The findings suggest that human capital exerts a significant positive impact upon the financial performance (measured by ROAA) of banks, whether Islamic or conventional. The findings observed in this study offer interesting insights and support the theoretical proposition extended by Bashir and Darrat (1994) that human capital is the key internal contributing force in the growth process.

Given the divergent nature of the present study, which provides evidence about a hitherto under-researched topic, i.e., Islamic banking and finance, the observed findings have practical economic implications. First, IHC helps both Islamic and conventional banks to maintain higher financial returns. Second, IHC helps IBs to maintain higher market performance than their conventional rivals competing in the same market. Arguably, human capital is the ultimate source of competitive advantage for IBs. Furthermore, one of the novel contributions of this study is that it includes Islamic and conventional banks in the analysis. Therefore, the results can guide not only managers of banks operating in the GCC region but other dual banking sectors as well, such as those in Malaysia, Pakistan and Bangladesh where Islamic banks compete head-to-head with conventional banks.

Islamic finance is still a rapidly evolving area, and new research is clearly needed to understand the key dynamics of such a way of banking in the networked economy (Nawaz and Goj, 2013; Nawaz, 2013a). The paper offers a new insight into dual banking systems and highlights the relevance of the Islamic banking business model. The analysis suggests that the existing Islamic banking business model should be further developed in a conceptually richer world of intangibles, knowledge and information. In particular, the analysis suggests substitutability between investment in organisational resources and banks' performance and illuminates some of the reasons for this. One implication is that future theoretical and empirical explorations of the economic role of intangibles ought to pay attention to bank size (as total assets held by IBs are only a fraction of those held by conventional financial institutions) and the differences in bank incentives engendered by

size heterogeneity, as well as to the time period. The study is limited to banks only, leaving room for further research on other financial institutions such as insurance companies. Furthermore, this study used a quantitative research approach and used secondary data; further research may use a qualitative research approach by focusing on those responsible for investment decisions, such as governance bodies and c-suite executives.

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Notes

- 1 The operationalisation of an Islamic bank is as follows: "on the liabilities side, it mobilises funds on the basis of a *mudarabah* or *wakalah* (agent) contract. It can also accept demand deposits, which are treated as interest-free loans from the clients to the bank and which are guaranteed. On the assets side, it advances funds on a profit-and-loss sharing or a debt-creating basis, in accordance with the principles of the *Shariah*. It plays the role of an investment manager for the owners of time deposits, usually called investment deposits. In addition, equity holding as well as commodity and asset trading constitute an integral part of Islamic banking operations. An Islamic bank shares its net earnings with its depositors in a way that depends on the size and date-to-maturity of each deposit. Depositors must be informed beforehand of the formula used for sharing the net earnings with the bank" [Iqbal et al., (2001), p.31].
- 2 The profession of faith is the prerequisite for membership of the Muslim community. In order to embrace Islam, one must profess and act upon this belief in the oneness of Allah known as *Tawhid* and the prophethood of the Prophet Muhammad (PBUH).
- 3 Refers to the five-time daily prayers (at different intervals of the day), an adult Muslim is obliged to perform, preceded by ritual cleansing or purification of the body.
- 4 A religious levy or obligation; it is an Arabic word which literally means to purify.
- 5 The conduct of fasting during *Ramadan* (entire month) which is the 9th month of the 12-month Islamic lunar year.
- 6 *Hajj* refers to the pilgrimage to the holy city of Mecca. Unlike the aforementioned obligations (pillars), which every Muslim must perform, Islam obliges those who have the financial and physical ability to perform *hajj* at least once in a lifetime.
- 7 Unlike the conventional banking system, for instance, penalty for late payment is not credited into accounts receivable. Such penalties are considered as interest and are subject to a charity account setup for benevolence loans and other charitable purposes.

- 8 HSBC and Standard Chartered are among the leading banking groups in the GCC region. In recent events, both groups have been involved in the corporate scandals in which both were fined \$1.92 billion and \$667 million, respectively, by US regulators for money laundering and violating US sanctions. HSBC also received a fine in Argentina for tax evasion and money laundering in 2013. Additionally, HSBC was fined \$275 million by the US Commodity Futures Trading Commission and \$343 million by Britain's Financial Conduct Authority in November 2014 for manipulating foreign exchange markets. HSBC's Swiss tax-dodging scandal, in which the bank used its Swiss branch to hold \$118 billion of 106,000 clients from 203 countries worldwide, came to the fore in February 2015.