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Financial Literacy and Investment decisions of Investors of Islamic Banks in Pakistan: The Role of Intention to invest and Religiosity

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ABSTRACT

Financial literacy is a key component of productive financial decision-making related to investment; an investor with sound financial knowledge can make better financial decisions. Therefore, this study aims to discover an association between financial literacy and investors' decisions, particularly regarding Islamic banks in Pakistan. When people tend to invest, religiosity may play a significant role in decision-making. This study also examined how religiosity moderates investors' decisions to invest in Islamic banks. A multi-group analysis was conducted to check the impact in detail. Questionnaires were used to collect data; out of 248 responses received, 218 were used to run the final statistical tests, and PLS-SEM was used. The findings indicate that financial literacy has a substantial influence on the intent to invest and is significantly associated with investment decisions in Islamic banks. Moreover, the outcomes revealed that although religiosity is a valid moderator, it does not have any impact on the intention to invest and investment decisions in Islamic banks. This research can help policymakers understand the significance of financial literacy in enhancing their productivity and investments from investors.

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1. Introduction

The Islamic banking industry is growing rapidly, and Islamic banks' total assets have reached USD 4 trillion (Muhammad & Nugraheni, 2022). In Pakistan, Islamic banks offer numerous investment methods, such as Mudarbah, Diminishing Musharakah, Ijara, Salam, Murabaha, and Istisna. A total of five full-fledged Islamic banks are operating, apart from the standalone window operations of non-Islamic or conventional banks and sub-branches (State Bank, 2022). Investment in Islamic banks is based on certain factors such as awareness and religious commitment (Asdullah & Yazdifar, 2016).

Financial goods are significantly multifaceted tools. Investors must be financially literate for the best possible investment choice and a sustainable investment path (Rasool & Safi Ullah, 2019). Globally, financial literacy (FL) has gained significant attention from researchers. As Clark (2016) expressed, FL is the understanding of an individual and the knowledge that wraps up financial products and management of financial investments. It covers a variety of perceptions that are essential for the awareness of investors, ensuring there are no information asymmetry issues connected to various financial terminologies, such as interest rate risks and inflation.

FL is defined as the capability to comprehend and apply information and abilities to successfully deal with financial reserves for a longer period of financial welfare (President Advisory Council of Financial Literacy, 2008). Rahim et al. (2016) defined FL as the capability and skills of a person to comprehend and analyze financial knowledge from financial institutes. Moreover, Antara et al. (2016) highlighted that FL is the level to which an individual has a wealth of information and the ability to comprehend the significance of Islamic financial products and services that affect their approach concerning the use of Islamic finance. A study was conducted by Shrestha et al. (2023) to find the impact of FL on personal investment decisions; the study was conducted in Kathmandu, Nepal. They examined FL with some independent variables, such as financial behavior, skill, attitude, knowledge, and awareness, and their impact on personal investment decisions. It was found that financial behavior, skills, and attitude have an impact on investment decisions. Another study, conducted by Ilyana et al. (2021), explored the association between FL and the intent to practice Islamic banks, finding that there is a positive and substantial relationship between them. It concluded that a person with high FL tends to have a high intention to use Islamic banking products. Furthermore, Iqbal et al. (2022) examined the nexus between FL and investors' investment decisions, discovering that FL has a resilient positive and substantial link with the individual choices of investors in investment. It is highlighted by Rahman et al. (2015) that religiosity (R) is the degree to which a person is enthusiastic and keen about his faith. The degree to which this faith is reflected in his behavior and thoughts is recognized as religiosity. Some argue that religiosity has no significant effect on investors' intention to invest (ITI) in Islamic financing products (Amin & Rahman, 2011).

In other research studies it is argued that FL affects the ITI of Islamic financial products, and R also affects the intention to invest in Islamic banking products (Muslichah & Sanusi, 2019). Therefore, this study aims to address this gap by examining the association between FL and investment decisions in Islamic banks (IDIB), with the mediating role of ITI in Islamic banks as well as the moderating role of religiosity in this interaction. The researcher also conducted a multi-group analysis (such as gender, age, and education-wise groups) to explore the association between FL and IDIB with the mediating role of ITI in Islamic banks and how R positively moderates these groups separately.

The main problem in IDIB among various levels of customer education is the lack of knowledge of the Islamic financial system and the rules that Islamic banks follow to operate their system. Education on financial knowledge among various Islamic banking customers can enhance their beliefs and trust in Islamic banks. This study examines the different levels of FL among investors, analyzes their decision-making processes regarding investment in Sharia-compliant banks, and highlights the essential roles of R and their ITI.

The researcher is motivated by the growth of the Islamic banking Industry which is a Halal and Sharia-compliant way to invest. However, due to a lack of financial knowledge, customers hesitate to invest in Islamic banks. That's why the researcher wants to examine the effect of FL on their ITI. Furthermore, the researcher also wants to check the role of R between ITI and IDIB.

This research can empower investors who need to finance Sharia-compliant products with the knowledge and tools to make well-versed choices, adapting to their financial aims and spiritual beliefs. It allows government officials to plan measures to confirm the robust financial sector of the economy.

Policymakers can apply the insights gained from this research to frame policies that support FL programs as well as policies that promote ethical and Sharia-compliant investments within the Islamic banking division.

An Academic community can benefit from this research and contribute to their understanding of the complex relationship between FL, R, ITI, and IDIB. This provides valuable insights into the prevailing form of knowledge in the field of Islamic finance.

This research provides insights into how religious beliefs and FL influence investment choices within the framework of Islamic finance. The multigroup examination aspect of the research permits an in-depth understanding of how R moderates the various multigroup (such as gender, age, and education) in their investment decisions. This could lead to targeted plans and policies for different investor segments.

2. Theoretical background

Previous studies on behavioral finance have applied the theory of reasoned action (TRA) to elucidate the intention of the customer in the direction of Islamic Sharia financing and have revealed its influence in clarifying the intentions of customers towards Islamic financing (Echchab & Nafiu, 2012; Lujja et al., 2016). This study found that TRA would be a more suitable theory to elucidate the intention of customers to adopt Islamic financial products, and it enriches TRA by including an association between FL and Investment decisions towards Islamic banks, taking ITI as a mediating variable. It also uses R as a moderator in relation to investment and investment decisions.

The TRA was developed by Ajzen and Fishbein (1980) and is intended to explain human behavior by signifying that the performance of an individual is motivated by behavioral intent and subjective norms. Intentions capture inspirational factors and, as such, reveal the strength people are willing to apply for the intended behavior. The TRA was one of the initial models that concentrated on forecasting intentions. Accordingly, this research study proposed a model based on TRA, which explains the association between FL and Investment decisions towards Islamic banks, with ITI as a mediating variable and R as a moderator in investment and investment decisions.

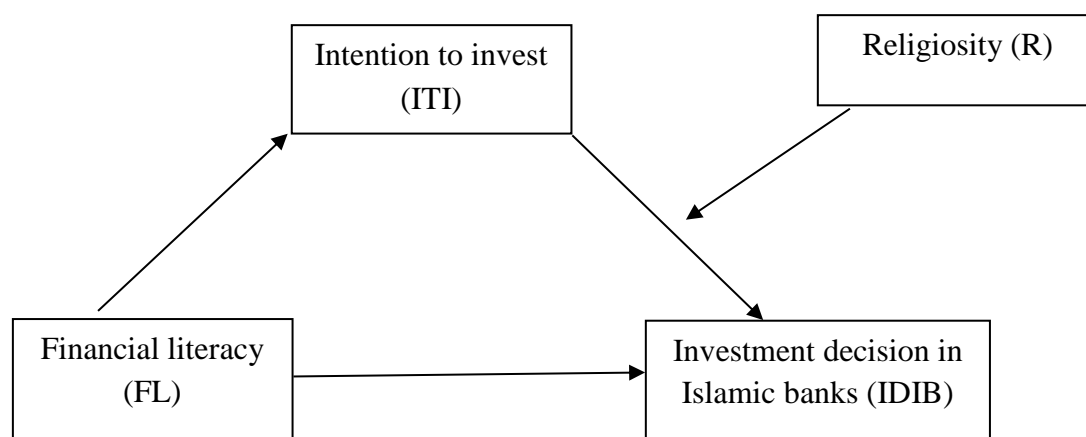


Fig. 1. Research Model

2.1. Financial Literacy and Investment Decisions in Islamic Banks

A study was conducted by Shrestha et al. (2023) to find the impact on the decisions to invest in FL; it was conducted in Kathmandu, Nepal. They examined FL using variables such as financial behavior skills, attitude, knowledge, and awareness. A study, conducted by Pala et al. (2024), explored the relationship between the level of Islamic FL and factors of customers' adoption of Islamic banks, finding that Turkish customers related to Islamic banks have appropriate knowledge about Islamic banking and that the adoption of Islamic banking is significantly anticipated by religious factors, including Sharia board management and the legitimacy of Islamic financial systems. According to Maheshwari et al. (2025), FL not only influences on investment decisions but also there are other factors, such as positive attitude and overconfidence, that empower the investment decisions of individual investors through knowledge and skills.

Furthermore, Iqbal et al. (2022) have examined the nexus between FL and the decisions of investors regarding investment. It was discovered that FL has a resilient positive and substantial link with investors' individual investment choices. Moreover, Kristanto and Gusaptono (2020) found a relationship between FL and investment decisions, discovering that investment decisions in Islamic banks are affected by FL, i.e., as FL increases customers intend to invest in Islamic banks. It was observed by Hamza and Arif (2019) that a direct and substantial association there is between FL and the decision to invest.

Lack of financial literacy causes problems in getting financial information and the ability to make effective investment decisions. Furthermore, financial information is one of the factors that enhances the intention to invest and influences on making more appropriate investment decisions. To increase financial literacy, policy-makers are taking actions to develop the formal, financial systems. This will not only help to improve literacy but also open the gates for investors to think in multiple dimensions. Moreover, education and gender have significant impacts on financial literacy, fostering investment decisions (Jana et al. 2019).

According to Hilgert et al. (2003), FL is similar to financial information if an individual is well-educated and aware of financial associations, services, and products, as well as the types, risks, profits, and requirements of the financial products. A well-educated individual is unlikely to form any financial decisions without sufficient knowledge. Various studies examine the consequences of FL and investment decisions.

This study aims to observe the following relationship:

Ha1: FL has a significant relationship with IDIB

2.2. Financial Literacy and Intention to Invest

A study was conducted by Ilyana et al. (2021) to find the association between FL and ITI in Islamic banks. They found that there is a positive and substantial relationship between them, concluding that the person with high FL tends to have high ITI Islamic banking products. In a study conducted by Jana et al. (2024), an association between financial literacy and the use of financial services was found. They also concluded that financial literacy significantly affects the decision to use financial services.

Attitudes towards Islamic Finance, FL, and bank reputation are substantially and negatively associated with ITI in Islamic banks (Albaity & Rahman, 2019). A research study was conducted by Yusufiarto et al. (2023) to examine the effect of FL and the theory of planned behavior on the intention to adopt Islamic capital market investment. They found a significant, positive relationship between FL and ITI in the Islamic capital market, suggesting that it would be beneficial for other Islamic financial institutions.

FL is the level to which an individual has a wealth of information and the ability to comprehend the significance of Islamic Sharia financial products and services that affect their approach concerning the intention to use Islamic Finance (Antara et al. 2016). It was highlighted by Lu et al. (2014) that FL has a positive result on the attitudes of consumers and their buying intentions. Sabirzyanov (2016) identified that awareness has a positive relationship with the intention to use Islamic bank products. According to Jamal et al. (2015), FL positively affects the thoughts of consumers and their saving behavior. Furthermore, Badshah et al. (2014) examined that FL has a temporary influence on investment intentions. On the other hand, Albaity and Rahman (2019) concluded that FL is adversely associated with ITI in Islamic Sharia banking, and well-educated individuals are more advanced in their attitude toward Islamic banks. The difference in philosophy among Islamic Sharia banks is supposed to be the source of the adverse association (Albaity & Rahman, 2019).

After reviewing the literature, this study tested the following hypothesis:

Ha2: FL has a significant relationship with ITI.

2.3. Intention to Invest and Investment Decisions in Islamic Banks

A research study conducted by Lujja et al. (2016) indicated that attitude toward Islamic banks was the strongest predictor of behavioral intention to adopt Islamic banking. Attitudes towards Islamic finance, FL, and bank reputation are substantially and negatively associated with the intention to practice Islamic banks (Albaity & Rahman, 2019). Similarly, Mukhtar and Butt (2012) indicated that one of the

most important factors used to understand consumer intention to choose an Islamic compliance product is religiosity. A research study conducted by Hong and Lee (2014) found that Muslims are mainly inspired by their religious beliefs to select things that align with Islamic values and standards. It was highlighted by Soesilowati (2010) that R influences consumers' intention to consume products according to Islamic rules or Shariah. According to Rehman and Shabbir (2010), Muslim customers' preferences are influenced by their level of R.

On the other hand, Al-Banna and Jannah (2023) noticed that investment behavior, specifically in Islamic banks, is highly influenced by religiosity. Societies that value religion more are concerned about their religion while investing in various opportunities.

After reviewing the literature, this study tested the following hypothesis:

Ha3: ITI affects IDIB

2.4. Religiosity as a Moderator Between Intention to Invest and Investment Decisions in Islamic Banks

In one of the studies, Amin and Rahman (2011) explained that "religious commitment refers to the part of religion in affecting one's preferences and activities." According to Sulaiman (2003), Islamic Sharia banks must work in the well-defined rules of Islamic Sharia through the contribution of Islamic banking's financial services and products to investors. If Islamic Sharia banks strictly fulfill the Islamic Sharia doctrine, there is a higher probability that Muslims will practice Islamic banking products. Many researchers have established religious obligation as a major factor in their considerations. According to Jaffar and Musa (2016), religious obligation is the most powerful factor in the attitudes of customers toward ITI in Islamic finance. Furthermore, Rahman et al. (2015) highlighted R as the level at which a person is devoted and keen to their faith, and the extent to which this faith is mirrored in their behavior and attitude is recognized as R.

It is also noted that the level of religiosity is the prime factor that increases investment intention. The higher the level of religiosity, the higher the intention to invest. Religiosity is the factor that inflates the relationship between the intention to invest and the investment decision (Nasiri et al. 2021). Abd Rashid et al. (2023) also noted that the degree of religiosity is important in investment decision-making. Similarly, religiosity is also an important factor for customer intentions.

Religious individuals have diverse standards in their lifecycle compared to people who are not religious or have fewer religious criteria (Ibrahim et al., 2017). Religion performs a main role in the daily practices and choices of religious individuals (Hosseini et al. 2019). However, Hosseini et al. (2019) indicated that people who are dedicated to Islam are eager to give high value to the acquisition of licensed halal food. This means that price does not play a significant role in decision-making. In one of the studies, Baker and Ricciardi (2014) stated that traditionally, the financial literature has overlooked discussing how religious standards affect decision-making processes. Thus far, the traditional finance theory of capital markets states that primary variables such as profitability, volatility, and stock prices affect financial decisions. Furthermore, behavioral finance intersects with human psychology and the feelings that influence investment decisions. Few researchers have outlined the role of religion in determining investor intentions and behavioral preferences. It was also examined by Hameed et al. (2018) that R is a moderator in behavioral biases and investment decision-making, having an impact on investors' decision-making. The research conducted by Mukhtar and Butt (2012) indicated that one of the most important factors which is used to understand consumer intention to choose an Islamic compliance product is R. It was also highlighted by Rehman and Shabbir (2010) that Muslim customers' preferences are affected by their level of R. A research study was conducted by Alsmadi (2024) to inspect the factors that affect the adoption of Islamic Fintech and examine the impact of religious orientation. FL, perceived risk, convenience, and trust were found to influence an individual investor's decision to adopt Islamic Fintech. It also discovered that religious orientation moderates between these factors and an investor's decision to adopt Islamic Fintech.

After reviewing the literature, this study tested the following hypothesis:

Ha4: R moderates the relationship between ITI and IDIB

3. Research Methodology

3.1. Instrument Development

This study investigated the association between FL and the decisions of investors in Islamic banks in Pakistan by examining the mediating role of ITI and R as moderators. A questionnaire was administered to gather demographic data. The measurement items in this study were adapted from earlier studies (see Table 2), using a 5-point Likert scale ranging from 1 to 5 (1= strongly disagree, 2 = disagree, 3 = Neutral, 4= agree, 5= strongly agree). Data were collected from Islamic banking service users and non-users. The researcher chose a total of 300 respondents as a sample in this research, as prior researchers had used approximately the same sample size (Sardiana, 2016; Mehmood et al. 2019; Mir et al. 2019; Iqbal et al. 2022; Shrestha et al. 2023)

3.2. Data Collection, Screening, and Statistical Testing

Data were collected using Google Forms. A total of 248 responses were selected for the test because they had properly filled out the forms. Moreover, data screening was performed to address issues associated with normality, missing values, and outliers to produce reliable data for analysis and testing. After data screening, 30 respondents were deleted from the original 248 responses because of invalid responses, omitted values, and unengaged answers, as recommended by Mason and Suri (2012) for the data screening method.

Partial least squares structural equation modeling (PLS-SEM) is appropriate in diverse areas of contemporary studies, such as Management information systems (Chen et al. 2003), organizations (Soisk et al. 2009), and marketing (Henseler et al. 2009). The use of partial least squares path modeling in international marketing and Islamic banking studies (Mir et al. 2019) highlights the motives for using PLS-SEM, which include flexibility in the assumption of normal distribution, appropriateness for model development, and capability to handle small sample data. The same moderated mediated model was tested in a study using Smart PLS software to execute PLS-SEM by Mir et al. (2020).

4. Results

4.1. Respondents Profile

Respondents consisted mostly of males, with 121 out of 218 (55.5%), and the remaining 97 were females (45.5%). Further, most respondents were postgraduates; specifically, 58.7% were postgraduates, 25.2% were undergraduates, 9.6 % were graduates, and 6.4% were classified as others. Additionally, 12% belong to Generation X and 88% belong to Generation Y. Table 1 summarizes the respondents' demographics.

Table 1. Demographic Summary of Respondents

		Freq	%			Freq	%
Gender	Male	121	44.5	Education	Undergraduate	21	9.6
	Female	97	55.5		Graduate	55	25.2
Total		218	100	Postgraduate	128	58.7	
Age (41 above 54) (25 to 40)	Generation X	27	12%	Others	14	6.4	
	Generation Y	191	88%				
	Total	218	100		218	100	

Source: The Author's Estimation

4.2. Measurement Model

The results of reliability and validity are presented in Table 2. As per Hair et al. (2016), measurement validity is of two types: (1) construct validity, and (2) convergent validity. In Table 2, convergent validity is described by two factors or parameters: Average variance extracted, and composite reliability (AVE and CR). Table 2 reports the factor loading for each construct. According to Hair et al. (2016), factor loading should be ≥ 0.6 . As shown in Table 2, factor loadings in this research study are greater than 0.6, indicating that the construct is a good fit.

According to Hair et al. (2016), AVE and CR values should be ≥ 0.5 and ≥ 0.7 , respectively. Hence, we can see in Table 2 that the AVE and CR values are greater than the recommended values

and validate the convergent validity of the constructs. Discriminant validity is also a significant assessment of validity, which evaluates the degree of differences among the constructs to confirm their independence (Hair et al. 2010). Discriminant validity was evaluated using cross-loadings, the Fornell-Larcker criterion, and the heterotrait-monotrait ratio (HTMT). The cross-loading values meet the criteria in this research (see Table 2) because each measure must have high loading within its specific construct, which was also suggested by Hair et al. (2016)

Fornell and Larcker (1981) suggested that the criterion for discriminant validity is that if the values of the square root of AVE are greater than the values from the factor of the constructs, the data are discriminately valid. The results in Table 3 indicate that the data are valid. Furthermore, for the HTMT ratio, the values should be < 0.85 (Clark & Watson, 2019; Henseler et al. 2015), and the results of HTMT suggest satisfactory results, as shown in Table 4. The results indicate that approximately 50.7% and 17.2% of the variation in the dependent variable (IDIB) and the mediator (ITI), respectively, are explained by the FL (independent variable).

Table 2. Outer Loadings

Construct	Loadings	Adapted Sources
FL (CR = 0.781, AVE = 0.546)		
FL2	0.630	
FL4	0.769	
FL5	0.806	Albaity & Rahman (2019); Ramanujam, (2018)
IDIB (CR = 0.807, AVE = 0.514)		
IDIB1	0.798	
IDIB2	0.760	
IDIB5	0.685	
IDIB6	0.608	Yaseen & Naqvi (2018); Ramanujam & Emilruban (2018).
ITI (CR = 0.926, AVE = 0.758)		
ITI1	0.877	
ITI2	0.795	
ITI3	0.904	
ITI6	0.901	Albaity & Rahman (2019)
R (CR = 0.882, AVE = 0.555)		
R1	0.716	
R2	0.711	
R3	0.732	
R4	0.814	
R5	0.786	Atal et al. (2020)
R6	0.705	

Source: The Author's Estimation

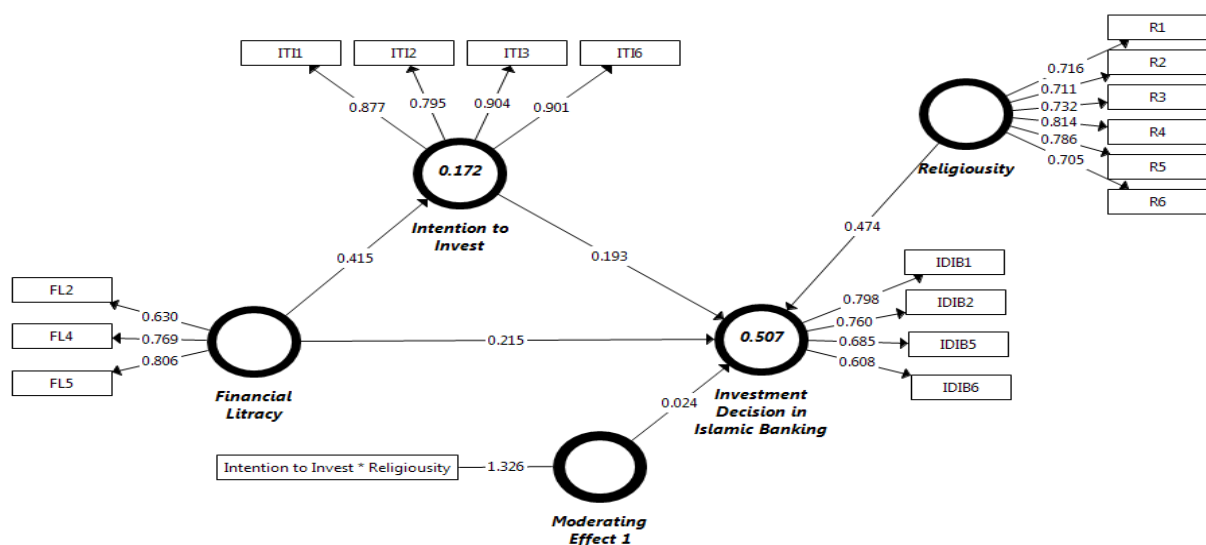


Fig. 2. PLS-Algorithm Model

Table 3. Fornell- Larcker Criterion

	FL	ITI	IDIB	R
FL	0.739			
ITI	0.415	0.871		
IDIB	0.534	0.481	0.717	
R	0.518	0.439	0.653	0.745

Source: The Author's Estimation

Table 4. Heterotrait-Monotrait Ratio (HTMT)

	FL	ITI	IDIB	R
FL				
ITI	0.560			
IDIB	0.816	0.545		
R	0.741	0.491	0.838	

Source: The Author's Estimation

Table 5. R Square

	R Square	R Square Adjusted
ITI	0.172	0.168
IDIB	0.507	0.498

Source: The Author's Estimation

4.3. Structural Modeling

A bootstrapping technique with 5,000 resamples was executed to obtain the normal error for calculating the t-value (see Table 6). FL had a significant effect on ITI ($t = 6.195$, $p\text{-value } 0.000 < 0.05$). Furthermore, a positive and substantial association exists between FL and IDIB ($t\text{-value} = 5.115$, $p\text{-value } 0.000 < 0.05$) as well as between ITI and IDIB ($t\text{-value} = 2.507$, $p = 0.012 < 0.05$). Moreover, the results disclosed that although R is a valid moderator ($t\text{-value} = 5.912$, $p\text{-value } 0.000 < 0.05$), it does not have any impact on ITI and IDIB ($t\text{-value} = 0.478$, $p\text{-value } 0.633 > 0.05$). Table 7 shows the indirect impact of FL on IDIB. According to the specific indirect result, the p-value is 0.042, which is < 0.05 , indicating that FL has an indirect impact on IDIB, and demonstrates the mediating role of ITI between FL and IDIB.

Table 6. Bootstrapping

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
FL -> ITI	0.415	0.421	0.067	6.195	0.000
FL -> IDIB	0.295	0.295	0.058	5.115	0.000
ITI -> IDIB	0.193	0.202	0.077	2.507	0.012
Moderating Effect 1 -> IDIB	0.024	0.022	0.051	0.478	0.633
R -> IDIB	0.474	0.469	0.080	5.912	0.000

Source: The Author's Estimation

Table 7. Specific Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
FL -> ITI -> IDIB	0.080	0.087	0.039	2.036	0.042

Source: The Author's Estimation

Table 7 presents the significance of ITI mediation. As FL increases among the people, it first boosts the ITI and, then, the ITI enhances their IDIB.

Table 8. Multi-Group Analysis of Gender

	Path Coefficients Original (Female)	Path Coefficients Original (Male)	Path Coefficients Mean (Female)	Path Coefficients Mean (Male)	STDEV (Female)	STDEV (Male)	t-Values (Female)	t-Values (Male)	p-Values (Female)	p-Values (Male)
FL -> ITI	0.425	0.456	0.439	0.464	0.113	0.081	3.781	5.655	0.000	0.000
FL -> IDIB	0.211	0.204	0.203	0.193	0.094	0.106	2.255	1.924	0.025	0.055
ITI -> IDIB	0.175	0.452	0.212	0.420	0.116	0.164	1.511	2.758	0.131	0.006
Moderating Effect 1 -> IDIB	0.080	-0.058	0.066	-0.070	0.069	0.068	1.161	0.855	0.246	0.393
R -> IDIB	0.552	0.297	0.508	0.301	0.157	0.102	3.525	2.926	0.000	0.004

Source: The Author's Estimation

To make the analysis more detailed, a more critical analysis was performed. First, the impact of the variables was checked for gender bias. Table 8 suggests whether some variables have an impact on others, indicating if it is the impact of both males and females or if some specific gender has a greater impact than others. In this context, it is seen that FL -> ITI has the same effects as far as gender is concerned but, ITI -> IDIB and FL -> IDIB have different effects. To understand this effect, we need to see the previous impacts. FL affects the ITI for both males and females. However, after enhancing the ITI, the investment decision is affected more by males than by females. This provides clear evidence that not all females, after enhancing the intention, make the decision, but males have an impact on making the decision; therefore, FL enhances the ITI for both males and females, but the ITI and IDIB show their significance only with males. Similarly, FL -> IDIB has significant impacts on females but not on males, which means that if males have FL, they intend to invest, and their intentions enhance the decision to invest in Islamic banks. Moreover, R is a valid moderator, but it does not create any impact between ITI and IDIB, whether for males or females.

Table 9. Multi-Group Analysis of Age

	Path Coefficients Original (Generation X)	Path Coefficients Original (Generation Y)	Path Coefficients Mean (Generation X)	Path Coefficients Mean (Generation Y)	STDEV (Generation X)	STDEV (Generation Y)	t-Values (Generation X)	t-Values (Generation Y)	p-Values (Generation X)	p-Values (Generation Y)
FL -> ITI	0.474	0.760	0.483	0.769	0.067	0.050	7.083	15.099	0.000	0.000
FL -> IDIB	0.040	0.297	0.036	0.294	0.080	0.145	0.498	2.050	0.619	0.041
ITI -> IDIB	0.166	0.404	0.168	0.365	0.071	0.187	2.358	2.154	0.019	0.032
Moderating Effect 1 -> IDIB	-0.056	0.001	-0.047	-0.053	0.044	0.161	1.255	0.008	0.210	0.993
R -> IDIB	0.586	0.252	0.598	0.270	0.080	0.164	7.327	1.535	0.000	0.125

Source: The Author's Estimation

In the above Table, age concerns generations Y and X. There was no change in the impact of FL and ITI; people in both generations enhanced their IDIB if they had FL through ITI. However, Generation Y only has direct and indirect relations with IDIB with or without the mediating role of ITI. R is also an important factor that influences the relationship for Generation X, but not for Generation Y. It is concluded that Generation Y's ITI does not necessarily enhance their decision to invest after having FL, and ultimately, no impact has been seen on whether the R aspect is present or not in Generation Y. However, Generation X decides to invest only in Islamic banking if its ITI is enhanced after obtaining FL. Furthermore, R has no impact on the ITI and IDIB for either Generation X or Y.

Table 10a. Multi-Group Analysis of Education

	Path Coefficients Original (Graduate)	Path Coefficients Original (Undergraduate)	Path Coefficients Mean (Graduate)	Path Coefficients Mean (Undergraduate)	STDEV (Graduate)	STDEV (Undergraduate)	t-Values (Graduate)	t-Values (Undergraduate)	p-Values (Graduate)	p-Values (Undergraduate)
FL -> ITI	0.751	0.345	0.758	0.404	0.049	0.307	15.38	1.124	0.000	0.261
FL -> IDIB	0.272	0.376	0.270	0.311	0.126	0.308	2.153	1.221	0.032	0.222
ITI -> IDIB	0.417	-0.112	0.419	0.006	0.108	0.479	3.859	0.235	0.000	0.815
Moderating Effect 1 -> IDIB	-0.059	-0.483	-0.066	-0.305	0.056	0.395	1.055	1.223	0.292	0.222
R-> IDIB	0.308	0.207	0.306	0.291	0.089	0.491	3.463	0.423	0.001	0.673

Source: The Author's Estimation

Table 10b. Multi-Group Analysis of Education

	Path Coefficients Original (Others)	Path Coefficients Original (Post Graduate)	Path Coefficients Mean (Others)	Path Coefficients Mean (Post Graduate)	STDEV (Others)	STDEV (Post Graduate)	t-Values (Others)	t-Values (Post Graduate)	p-Values (Others)	p-Values (Post Graduate)
FL -> ITI	-0.583	0.457	-0.518	0.463	0.431	0.069	1.354	6.573	0.176	0.000
FL -> IDIB	0.804	-0.152	0.964	-0.130	1.374	0.102	0.585	1.498	0.559	0.135
ITI -> IDIB	-0.098	0.213	-0.032	0.209	0.801	0.107	0.123	1.991	0.902	0.047
Moderating Effect 1 -> IDIB	0.195	-0.115	0.304	-0.110	2.206	0.052	0.088	2.238	0.930	0.026
R -> IDIB	-0.156	0.595	-0.473	0.588	1.709	0.097	0.091	6.111	0.927	0.000

Source: The Author's Estimation

The above Tables 10a and 10b present the impacts based on education. As we can see from the results, FL varies with the level of education achieved by individuals. Specifically, Undergraduates and Others (i.e., diplomas, certificates, etc.) are not making any impact individually with FL -> ITI, FL -> IDIB, ITI -> IDIB, and R -> IDIB; all relationships are insignificant. On the contrary, the respondents who were graduates had significant relationships with all the variables. In a nutshell, it is evident from the results that for those who have graduated, FL impacts ITI and influences decisions to invest in Islamic banking. On the other hand, the respondents with postgraduate qualifications had significant relationships with all the variables except FL -> IDIB. It is obvious from the results that for those who have postgraduate qualifications, FL has an indirect impact on IDIB, meaning those who are postgraduate only decide to invest in Islamic banking if their ITI is enhanced after having FL. Moreover, R also plays a significant role and has a significant impact on ITI and IDIB if the respondent has postgraduate qualifications. This relationship is the opposite in graduate, undergraduate, and other qualifications.

5. Discussion

This study investigated the association between FL and IDIB in Pakistan by examining the roles of ITI and R. The measurement items were adapted from former studies using 5-point Likert scale, ranging from 1 to 5. Data were collected from Islamic banking service users and non-users. These results are similar to those of previous research (Ilyana et al. 2021; Antara et al. 2016), which found that there is a positive and substantial relationship between FL and ITI in Islamic Sharia banks and concluded that people with high FL tend to have high ITI in Islamic banking products. The researcher also examined selected demographic variables, and it was found that there is a positive and substantial relationship between FL and ITI in Islamic banks, whether people are male or female, belong to Generations X or Y, or are graduated or postgraduated; However, this relationship is insignificant in the case of undergraduate or other education levels. It was also discovered in this research study that a positive and substantial connection exists between FL and IDIB. These results are similar to those conducted by Shrestha et al. (2023), and Iqbal et al. (2022) which found a positive and substantial link with an individual decision to invest. Several pieces of literature have applied the Theory of Reasoned Action

(TRA) to elucidate the intention of customers toward Islamic Sharia financing and revealed its influence in clarifying the investment decisions of customers toward Islamic financing (Echchab & Nafiu, 2012; Lujja et al., 2016). This research also uses the Theory of Reasoned Action to describe the intention of customers toward Islamic financial products and enhances TRA by including ITI as a mediator between FL and IDIB, finding in this research study that there is a positive and substantial relationship between ITI and IDIB. Moreover, the researcher found that although R is a valid variable, it does not create any impact between ITI and IDIB, as shown in Table 6. The researcher also examined specific demographic variables and found that R had no impact on males or females, Generations X or Y, graduates, undergraduates, and other education levels, whereas R had only an impact on postgraduate students. It implies that if the education level increases, then the ITI of people is moderated by R. R plays a role, as the moderated variable, in the decisions to invest (Hameed et al., 2018).

6. Conclusion

This research study was conducted to determine the relationship between FL and IDIB of Pakistan, mediated by the role of ITI and R. We found and concluded that there is a substantial relation between FL and IDIB because people who have FL and want to put their investment in an interest-free banking system, invest their money in Islamic banks. These results are similar to those conducted by Shrestha et al. (2023), and Iqbal et al. (2022). Moreover, it was found that FL has a resilient positive and substantial link with an individual's Investment decisions. For this purpose, reputation and the RIBA-free system are very important for investors. For the Multi-group analysis, we found that only Generation Y had direct and indirect relationships with IDIB. Similarly, FL -> IDIB has significant impacts on females but not on males, which means that if males have FL, they intend to invest, and their intentions enhance IDIB. Furthermore, we found that FL and ITI also have substantial and positive relations, indicating that people with high FL tend to have a high intention to use Islamic banking (Halal or Riba free) products, similar to the study conducted by Jana et al. (2019). The lack of financial literacy causes problems in obtaining financial information and the ability to make effective investment decisions. Furthermore, financial information is one of the factors that enhances the intention to invest and making more appropriate investment decisions. It was observed that FL has a substantial effect on the ITI. These results are similar to the previous research (Ilyana et al., 2021; Antara et al., 2016). The researcher also examined selected demographic variables and it was found that there is a positive and substantial relationship between FL and ITI in Islamic banks whether people are male or female, belong to Generations X or Y, or are graduated or postgraduated; these results are similar to the previous study conducted by Jana et al., (2024), arguing that as the education level increases, financial literacy also increases and people can make better financial decisions.

People who are undergraduates or have another education level (such as a diploma) do not intend to invest in Islamic Financial products due to low FL. It was further observed that ITI -> IDIB also has a significant relationship because people who intend to invest in Riba-free Halal products choose Islamic banking (Halal) products. In the Multi-group analysis, we observed that FL affected the ITI for both males and females. However, after enhancing the ITI, the investment decision is affected more by males than by females. It provides clear evidence that not all females, after enhancing the intention, make the decision; it is often observed that females are dependent on males to make any decisions, and this may be the one reason for this. It was also found that people belonging to Generations X or Y, graduates or postgraduates, had a significant relationship with ITI -> IDIB. Moreover, the researcher also found that although R is a valid variable, it does not have any impact on ITI and IDIB. Researchers also observed that R has no impact on males or females, Generations X or Y, graduates, undergraduates, and other educational levels, whereas R has an impact only on postgraduate individuals. The results are in line with another study conducted by Muhamat et al., (2023), highlighting that education, gender, and age are also important factors that influence the ITI. Furthermore, this means that if the education level increases beyond the graduation level, then the ITI of people is moderated by R. These results are also found in previous studies (Hameed et al., 2018), suggesting that R impacts, as the moderating variable, the decisions to invest.

This research assists investors who want to invest in sharia-compliant products, Islamic Banks (IB), policymakers at the governmental level, and educational institutes at both the private and governmental levels. This could lead to targeted plans and policies for different investor segments.

Furthermore, Policymakers can apply the insights gained from this research to frame policies that promote and support financial literacy programs as well as policies that promote ethical and Sharia-compliant investments within the Islamic banking division. Similarly, this study supports the academic group's understanding of the multifaceted relationship between financial literacy, religiosity, intentions to invest, and investment decisions. It provides in-depth insights into the prevailing form of knowledge in the field of Islamic finance.

This research provides insights into how religious beliefs and financial literacy influence investment decisions within the framework of Islamic finance. The multi-group examination aspect of the research permits an exact understanding of how religiosity moderates different multi-groups (such as gender, age, and education) in their investment decisions. This could lead to targeted plans and policies for different investor segments. It also allows policymakers and regulators to design measures to ensure a robust and resilient financial sector. Likewise, this research aids the academic community in understanding the multifaceted relationships between financial literacy, religiosity, intentions to invest, and investment decisions. This study provides valuable insights into the existing body of literature in the field of Islamic finance.

7. Limitations and Policy Implications

Although the purpose of this study was successfully achieved before generalizing the results, some restrictions should be considered. This research study was restricted to the people of Karachi City (Pakistan). To achieve more holistic outcomes, research studies should be conducted countrywide. The sample size was limited to 300 respondents; future research studies may enhance the sample size. Furthermore, future research may include more moderators and behavioral biases to explain the results more extensively. A few recommendations are suggested after the findings of the current study: Policymakers and financial intermediaries should consider the intentions of people, motivate them further, and encourage policies for the rest of the people as well through FL training programs, seminars, and workshops. It is also recommended that educational institutes design and include courses for enhancing FL, particularly for Islamic financial knowledge, and incorporate it in their curriculum.

Managers in Islamic banks can benefit from this research regarding the association between financial literacy and the intention to invest in Islamic banks in numerous ways.

Managers can plan marketing drives to enhance financial literacy in sectors with low financial literacy and encourage more investors to invest in Halal products. They can use this research for product developments according to the needs of various relevant customers. They can also design different programs for enhancing the financial knowledge of customer, including workshops, seminars and social media resources to raise awareness about Islamic banking products and their opportunities. Ultimately, Managers can apply this research to grow long-term associations with customers and maintain loyal relationships.

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