

# Analytical Study of the Influence of Relative Advantage and Compatibility on Customers' Adoption of Islamic Banking in Pakistan

Syed Iradat Abbas, Yusuf Haji-Othman, Mohammadtahir Cheumar

Sultan Abdul Halim Mu'adzam Shah International Islamic University ( UniSHAMS), 09300, Kuala Ketil, Kedah, Malaysia.

## Abstract

Although Pakistani Islamic banks offered consumers of Islamic banking and the country at large desirable opportunities, customer adoption remained low in Pakistan. Rogers' (2003) Diffusion of Innovation Theory was used in this study to examine the effects of relative advantage and compatibility on customer adoption of Islamic banking goods and services in Pakistan. The study looked at how adoption is directly impacted by relative advantage and compatibility. Relative advantage and compatibility were found to have a considerable impact on adoption, supporting hypotheses H1 and H2.

**Keywords:** Relative Advantage, Compatibility, Adoption, Diffusion of Innovation Theory, Islamic Banking Products and Services, Etc.

## Introduction

The word-to-word translation of the Arabic word 'Riba' is 'increase' but in the whole Islamic world, the meaning of the word is considered as 'interest' unanimously by all schools of thought in the Muslim world. Interest is an increased amount of money that a borrower is charged by a lender over a loan for a certain time. Interest in a loan is unethical, inappropriate, or simply not allowed in Islamic Jurisprudence. In the Holy Quran, it is quoted that

يَا أَيُّهَا الَّذِينَ آمَنُوا اتَّقُوا اللَّهَ وَذَرُوا مَا بَقِيَ مِنَ الرِّبَا إِن كُنتُمْ مُؤْمِنِينَ

"O you who have believed, fear Allah and give up what remains [due to you] of interest if you should be believers" (Al-Quran: Suratul Baqrah: 278)

The Prophet Muhammad (P.B.U.H.), said, "Sell gold in exchange for equivalent gold, sell silver in exchange for equivalent silver, sell dates in exchange for equivalent dates, sell wheat in exchange for equivalent wheat, sell salt in exchange for equivalent salt, sell barley in exchange of equivalent barley, but if a person transacts in excess, it will be usury (*riba*). However, sell gold for silver anyway you please on the condition it is hand-to-hand (spot) and sell barley for a date any way you please on the condition it is hand-to-hand (spot)" (Khalil & Siddiqui, 2019).

Islamic banks are the institutions that were developed to meet demand. The demand was to collect those idle funds that were not placed in conventional banks due to the religious sensitivity of avoiding interest and making these funds available to persons in need of funds through interest-free techniques. It can be said that Islamic banks played a major role in getting these idle funds into the financial system. In the 1970s it was witnessed when oil profits in OPEC countries raised the issue of how to evaluate these revenues on the one hand, and the issue of returning the money paid by the oil buyer countries making these payments on the other (Akin, 1986: 4). Interest in interest-free banking rose as a result of this circumstance. Between 1963 and 1967, Egypt conducted the first theoretical studies on the evaluation of new financial services within the framework of Islamic law principles to address this critical requirement of the global financial industry. The techniques and goods that these banks can use in both the fundraising and fund disbursement stages have been determined based on the opinions of a committee of specialists in the field of the banking system and Islamic law. By the end of 2019, there were 428 commercial Islamic banks around the world. In the same year, global Islamic banking assets were around \$1.99 trillion US dollars, accounting for around 6% of total global banking assets (Mirza, 2020).

#### *Philosophy of Islamic Banking*

Islamic finance is a fundamental kind of lending that is straightforward, ethical, and just (Hassan & Mollah, 2018, p.119). They are governed by Shari'ah (Islamic law), which is based on the Holy Qur'an and Sunnah. In actuality, Muslims' economic outlook is founded on man's obligation to plan his actions in accordance with God's will as his representative and ruler on Earth. Not only is fairness desired, but it's also important to prevent an unequal and unfair distribution of wealth, which would make riches an exclusive good available exclusively to the wealthy. On the other hand, Islamic finance is firmly rooted in a real and commercial economy built on moral principles (Warde, 2000). An Islamic bank, as defined by Siddiqui (2001), is "a financial institution that aligns itself with the spirit of Shari'ah, as written forth by the Holy Qur'an and Sunnah, in terms of its aims, principles, practices, and operations." Fairness and consumer involvement are encouraged in Islamic banking when working toward financial goals. It forbids interest and forbids unethical business practices, non-Shari'ah compatible endeavors, monopolies, and any kind of exploitation (Ayub, 2007). According to the established concept of Islamic jurisprudence, under the Islamic financial system, both parties engaged in conducting an economic activity should share profits and losses. Interest in Islam is just as prohibited as eating pork, playing poker, or drinking alcohol (Ayub, 2007). Since decades, it has been noted that the traditional banking system favors the wealthy and makes the poor suffer from the weight of interest, making them poorer (Aliyu, 2012). The Islamic banking and financial system mandates that all banking goods and services be devoid of entrenched injustice, such as interest. Islamic banking is an ethical, legal, and non-exploitative system of banking and finance that forbids the use of interest.

#### **Statement of Problem**

Pakistani Islamic banking is dealing with a number of issues and difficulties. The government's weak attempts and vague regulations regarding the expansion of Islamic banking are the biggest issue (Qureshi & Hussain, 2022). Another problem with Islamic banks in Pakistan is that after more than 40 years since its beginning in 1977, the market

share of Islamic banking assets and deposits in the whole banking industry was just 19.5 percent and 20.5 percent, respectively (Islamic Banking Bulletin, 2022).

Islamic banks are less efficient than conventional banks in terms of overall technical efficiency (Majeed & Zainab, 2017). Islamic banks in Pakistan lack a short-term market in which to invest their excess assets. In the Islamic Banking industry, there is no such interest-free option for fund employment. These banks also confront challenges in consumer lending and government budget funding. The profit and loss sharing mode of finance is one of the key spirits of Islamic banking but due to the risk in this mode of finance, practically all Islamic banks in Pakistan are engaged in providing a consistent return (Haider, 2019). The Islamic banking sector has experienced enormous expansion, particularly in Islamic nations, with GCC countries and Malaysia leading the way. The situation in the "Islamic Republic of Pakistan" is the other way around, with the overall number of Islamic banks and their revenues steadily declining (Masood, Javaria, & Bellalah, 2020).

The theoretical guidelines for Islamic banking outlined by the State Bank of Pakistan are not followed by Islamic banks in Pakistan (Ahmed, 2022; Ahmed et al, 2021). To guarantee that the Islamic banking principles are completely applied and that the banks are not simply Islamic by name, the country's Islamic banking system has to be changed. A greater focus should be placed on bringing theory and practice closer together (Ahmed, 2022).

#### Top 10 Pakistani Banks and its Profits in 9 Months of 2020 in Rupees

NAME OF BANKS	RANK OF BANK	PROFIT IN BILLION BY 3 <sup>RD</sup> Quarter
National Bank of Pakistan	1	16.33
MCB	2	16.29
UBL	3	14.22
SCBL	4	11.4
MEEZAN BANK ( ISLAMIC)	5	10.94
ALLIED BANK	6	9.405
BANK ALFALAH	7	9.2
HABIB BANK LIMITED	8	8.82
BANK AL-HABIB	9	8.5
BANK OF PUNJAB	10	5.44

Source: (Rahman, 2019)

Out of the top 10 banks operating in Pakistan, only one is fully Islamic, Meezan Bank, which is ranked fifth in terms of profitability in the aforementioned ranking. By the end of June 2022, the market share of Islamic banking assets and deposits in the whole banking sector was 19.5 percent and 20.5 percent, respectively (State Bank of Pakistan, 2022). The argument is that Pakistan is a country that was founded in 1947 on fundamental Islamic principles. In Pakistan Muslims make up 96.50% of the total population ("Muslim population by country 2022," 2022), yet the market share of Islamic banking assets in the entire banking sector was just 19.5%.

### ***Research Questions***

Research questions are the essential queries that support a research project, research study, thesis, etc. Through these inquiries, a researcher gets relevant information to accomplish the study's goal, which in turn aids in the conclusion of the research problem. The research questions utilized in this study are listed below.

1. How significant is the influence of relative advantage on the customers' adoption of Islamic banking in Pakistan?
2. Does compatibility influence customers' adoption of Islamic banking in Pakistan?

### ***The Objective of the Study***

1. To analyze the influence of relative advantage on customers' adoption of Islamic banking in Pakistan.
2. To study the impact of compatibility on customers' adoption of Islamic banking in Pakistan.

### **Literature Review**

#### ***Adoption and Roger's Perceived Attributes of Innovation***

Innovation is key to success in many areas. It involves developing a new idea or solution to an existing problem. Adoption of this new idea or solution requires consideration of its relative advantage, compatibility and perceived attributes. Adopters can be divided into categories based on the level of risk they are prepared to accept for a potential big reward. The relative advantage and compatibility of the innovation is an integral part of its adoption, as it will indicate how quickly it will be taken up by different adopters and in what context (Byers, 2021; Majekodunmi, 2015). Potential adopters will assess the relative advantages of the innovation, compared to existing products and services, when making their adoption decision. Early adopters may also be influenced by the social system they are part of, which is an underlying principle in Rogers' perceived attributes of innovation. The observability and trialability of an innovation are two parts that potential adopters will weigh up in order to ascertain its relative advantages over existing solutions (Majekodunmi, 2015).

The diffusion theorist Rogers believed that relative advantage is one of the best predictors of innovation adoption. By understanding the potential adopters' past experiences and benefits, a product or idea can be seen to have an advantage over its competitors. This degree of relative advantage must be consistent for the innovation to successfully diffuse throughout society. Compatibility is also an important factor in determining how likely an innovation will be adopted by potential users and it relates to how well a new idea or product fits into existing frameworks, behaviour patterns and attitudes that already exist. Therefore, if an innovator can establish that their product has a relative advantage over others as well as being compatible with user's current behaviours and attitudes they are more likely to see successful adoption rates (Pankratz, 2002).

Rogers perceived attributes of innovation include relative advantage, compatibility, complexity, effectiveness, observability and simplicity. Each attribute has a degree of difficulty associated with it which can help to establish the overall success or failure of an innovation. Relative perception is also important as users need to be able to understand the advantages that the new product or service brings them over their current situation in order to be comfortable with making the change (Pankratz, 2002). Rogers' perceived attributes of innovation relative advantage, compatibility and complexity are important in

the diffusion process. Relative advantage is concerned with how much better the new product or service is compared to what's already available. Compatibility looks at how well the new offering fits within the current environment of users and whether they will be able to integrate it into their lives with minimal effort. Complexity looks at how difficult it will be for a user to understand and use a certain product or service. Observability and trialability are two other important aspects of consumer acceptance when it comes to new products or services. Observability refers to how easy it is for users to observe other people using a certain product or service, while trialability refers to how easy it is for people who want to try out a new offering without having committed fully (Yocco, 2015).

Rogers Perceived Attributes of Innovation, Relative Advantage, and Compatibility have been used in diffusion studies to measure the relative strength levels of innovation. These attributes are based on the perceptions that adopters have of a particular innovation. They include how well an innovation fits with existing institutional values, how much better it is than existing alternatives, and how compatible it is with existing values or practices. Although these three attributes are often seen as congruent properties of an innovation, there can also be variance between them (Pankratz, 2002).

### *Relative Advantage (H1)*

*The degree to which an invention is viewed as being superior than the idea it succeeds is known as relative advantage, according to (Rogers, 2003). The benefits that the adoption of new technology might bring about in terms of costs are referred to as relative advantages (Mohr et al., 2010). The components of relative advantage are the cost and social status motivating aspects of inventions.*

Relative advantage has been identified by several studies and writers as the most reliable indicator of product and service adoption (Yahaya et al., 2017). The key elements of relative advantage are cost savings and convenience (Black, Lockett, Winklhofer, and Ennew, 2001). For reasons of convenience, the researcher thinks that eliminating the burden of *riba*—particularly in the context of Islamic banking—is the most important feature of relative advantage. Relative advantage appears to have a favorable effect on attitudes toward the adoption of Islamic banking products and services in Pakistan, (Aziz and Afaq, 2018).

### *Compatibility (H2)*

The degree to which an invention is viewed as compatible with current values, prior experiences, and the demands of future customers is referred to as compatibility (Rogers, 2003). Innovation is more likely to be adopted and spread if it is more consistent with current methods of doing things and does not necessitate adopting new behaviors. According to Rogers, this means that the adoption rate increases as compatibility increases. On the other hand, it will take longer to convince the market to embrace a product if it is incompatible with societal norms and ideas. This is particularly prevalent in high-tech sectors, where issues with compatibility with various interfaces and related goods are frequent (Mohr et al., 2010).

Customers of Islamic banks are more inclined to accept products and services that are in line with their moral principles, adhere to Shari'ah, and meet their financial needs (Echchabi et al., 2015). The fact that Pakistan is predominately a Muslim country is discussed, just as it was in chapter 1. A large portion of people use interest-based banking.

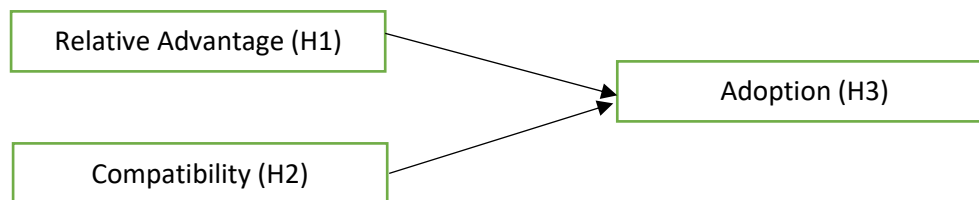
The perception of Islamic banking operations is favorable, thus they should be investigated (Thambia, 2010). Sanni et al (2013)'s study discovered a favorable correlation between compatibility and adoption.

### **Research Design**

A quantitative method was used for this study for which descriptive and hypothesis testing is needed. A well-structured questionnaire was used to collect data from Islamic banking customers in Pakistan for hypothesis testing. The respondents' opinions, feelings, and behavior collected were used as primary data for this study as the sample of the population.

### **Conceptual Framework of the Research**

As previously stated, the fundamental theory of this study is based on Roger's theory of diffusion of innovation (DIT). The recommended research framework for this topic is provided below.



### **Research Population**

A population is the whole group about whom someone wishes to draw conclusions (Grummel, 2005). The group from which the data will be taken is known as a sample. The sample size is never more than the size of the total population. As a consequence, all the factors that the researcher wants to look at are referred to as the "research population" (Denscombe, 2017).

Therefore, the target population of this study is everyone who uses Islamic banking services and products in Pakistan. Five full-fledged Islamic banks, namely Meezan Bank, Al-Barakah Bank, Bank Islami, Dubai Islamic Bank, and MCB Islamic Bank, are now in operation in Pakistan. Therefore, the researcher thinks that information from these Pakistani banks may be utilized as a representative sample of all of the country's clients who use Islamic banking. A tiny percentage of the population was selected as a sample of the population due to time and resource constraints.

### **Sample Size Determination**

By Krejcie and Morgan's table, the population of 7 million gives a sample size of 384 (as has been shown below). Thus the sample size of this study as calculated by using Krejcie and Morgan's (1970) formula is 384. This is based on a 5 percent margin of error and 95 percent confidence level with a degree of freedom 1.

The formula used by Krejcie and Morgan (1970) for the calculation of the sample size is as follows:

$$n = \frac{X^2 N P (1-P)}{e^2(N-1) + X^2 P (1-P)}$$

n = Size of the sample

e = margin of error = 0.05

X = the table value of Chi-square depends on the degree of freedom at a given confidence level. In this study, the confidence level is 95% with degree of freedom 1, Chi-square value =  $X^2 = 3.841$

P = Population Proportion = 0.5 (standard)

N = Population Size= 7 million

$$n = \{ 3.841 \times 7000000 \times 0.5 (1-0.5) \} / \{ 0.0025 (7000000-1) + 3.841 \times 0.5 (1-0.5) \}$$

$$= 384$$

To deal with the non-response issue it is generally recommended to increase the sample size by 30 to 50 percent. That is why after adding up 30 percent to 384, the sample size would be 500  $[(384 \times 30\%) + 384 = 499.2 \approx 500]$ .

### Findings and Analyses

The current study's data analysis was presented in this section, together with conclusions drawn from research objectives and research hypotheses. Additionally, two statistical software programs were used in the current study to analyze the data: SPSS (v. 23) for the screening of primary data and preliminary analysis, and SmartPLS (v. 3.1.2) for the evaluation of the measurement model.

The descriptive analysis of the latent variables was followed by a study of the respondents' demographic profile. The main analytical findings of the current investigation using the PLS route modeling technique were then presented.

### Response Rate

500 respondents to the present study who use Islamic banking services in Pakistan received questionnaires. 395 questionnaires had been submitted by the conclusion of the survey period, with a 79% response rate. Of the 395 returned questionnaires, 38 were discarded because the majority of them were not complete. With a valid response rate of 71.4%, the remaining 357 questionnaires were judged appropriate for data analysis in the present study. For the survey technique, a response rate of at least 30% is necessary (Livingston, 2012). Furthermore, it was suggested that for organizational research initiatives, a 35% response rate is sufficient (Kimball & Loya, 2017). According to Sekaran (2003), for the majority of non-probability approaches, a sample size more than 30 and lower than 500 would be adequate..

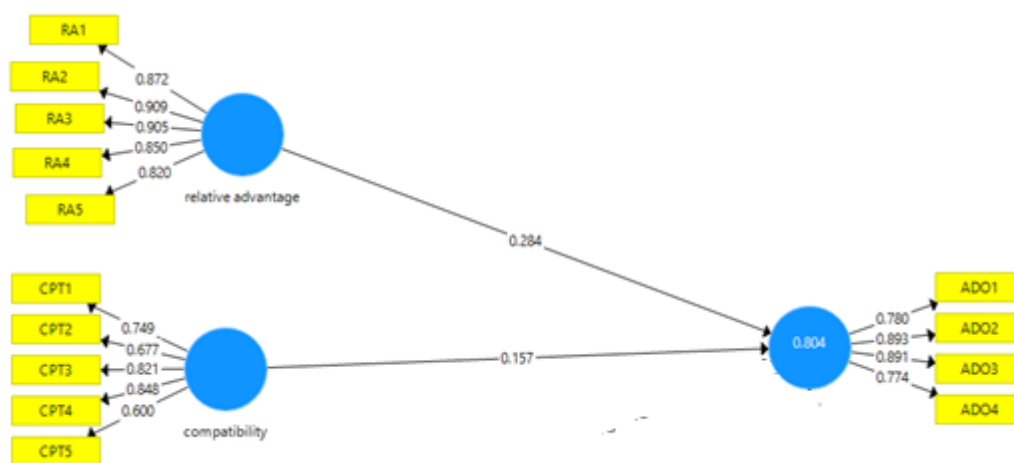
As a result, the current study's legitimate response rate of 70.4% % was deemed appropriate for data analysis which is 352. Table 5.1 provides a full summary of the questionnaire responses for the current study.

**Summary of the questionnaire responses for the current study**

*Response rate*

Response	Number of questionnaires	Percentage
Number of questionnaires distributed	500	100%
Total returned questionnaires	395	79%
Un-usable questionnaires	38	
Usable questionnaires	357	71.4%
Questionnaires deleted due to missing values	00	
Questionnaires deleted due to outliers	05	
Remaining usable questionnaires	352	70.4%

**Measurement model relationship**



**Assessment of measurement model**

Factor	Alpha	CR	AVE
<b>ADOPTION</b>	<b>0.8554</b>	<b>0.9027</b>	<b>0.6998</b>
<b>COMPATIBILITY</b>	<b>0.7960</b>	<b>0.8597</b>	<b>0.5544</b>
<b>RELATIVE ADVANTAGE</b>	<b>0.9206</b>	<b>0.9405</b>	<b>0.7599</b>

*Path coefficients of hypothesized relationships*

Relationship	beta	SD	t value	p value	decision
CPT-->ADO	0.1391	0.0358	3.8803	0.0001	accepted
RA-->ADO	0.2296	0.0507	4.5311	0.0000	accepted

**Structural Model Relationship**

The structural model evaluation showed the route coefficients for the relationships that were postulated in the current investigation. Relative Advantage was explicitly predicted to have a favorable relationship with adoption under hypothesis (H1). Relative Advantage (RA) and Adoption (ADO) have a statistically significant positive association, as shown by Table and Figure, with ( $\beta=0.2296$ ,  $t=4.5311$ ,  $p<0.05$ ). In light of this, hypothesis (H1) was confirmed. Additionally, the results showed a strong positive link between compatibility (CPT) and adoption (ADO) with ( $\beta=0.1391$ ,  $t=3.8803$ ,  $p<0.05$ ), supporting hypothesis (H2). According to



(Andrade, 2019), the  $p$  value  $< 0.05$  is considered as a cut-off that indicates statistically significant.

### ***The Influence of Relative Advantage on the Adoption***

The relative advantage was thought to favorably influence Pakistan's acceptance of Islamic banking. The phrase "relative advantage" in the context of this study refers to the subjective assessment of the benefits of Islamic banking over the interest-based banking system by its users. Relative advantage, according to Rogers (2003), describes situations in which consumers were intended to gain greater benefits from utilizing a new product or service as opposed to an existing one (Rogers 2003). This study provides evidence for the H1 by showing a strong positive relationship between relative advantage and adoption. This finding concurs with a previous research conducted by Thambiah et al (2010) and Ahmed (2021) under Rogers (2003) theory of diffusion of innovation.

According to the survey's findings, Pakistani customers of Islamic banks think they offer a superior option than the nation's well-established conventional banks. In comparison to traditional banks, Islamic banks provide them with superior banking quality, more dependable service, and a more inexpensive and practical method of banking.

### ***The Influence of Compatibility on Adoption***

The degree to which customers believe the Islamic bank's products and services are consistent with their beliefs and values is the measure of compatibility in this study. (Rogers, 2003). The outcome is consistent with hypothesis H2, which emphasizes the statement provided by Islamic bank customers that the current financial services provided by Pakistani Islamic banks are in keeping with their philosophy and are regarded as being in line with their concept of human justice. Additionally, it proves that it adheres to the client's banking standards. The findings of this study suggest that Pakistani banking services and products are in line with the values and beliefs of its customers. Therefore, if Islamic banks in Pakistan continue to provide the current offerings, increasing adoption of those goods and services may be anticipated. The findings of this study are consistent with those of previous studies, but more importantly, they are consistent with the Diffusion of Innovation Theory's central tenet (Rogers, 2003). This theory holds that if a product, service, or idea aligns with a consumer's ideas, values, or behaviors, they are more likely to adopt it. Pakistani consumers choose Islamic banking products and services because they are thought to be in line with their morals and principles. Customers view the products and services offered by Pakistani Islamic banks as being in keeping with their religious beliefs, which banned interest (riba), and with the ethical standards outlined by Shari'ah.

### **Conclusion**

The aim of the study was to examine the factors that affected Pakistan's acceptance of Islamic banking. The underpinning premise for this study was Roger's theory of diffusion of innovation (DIT). The study's factors included relative advantage, compatibility, and adoption. The source of the data utilized to compile the study was users of Islamic banking services. Relative advantage and compatibility had a substantial impact on adoption.

Undoubtedly, it can be said that in the last three decades, Islamic banking has prevailed as an innovation in banking sectors primarily in the Islamic world and secondarily in other parts of the world. It has also been observed that especially in the case of Pakistan the rate

of adoption of Islamic banking products and services is low (Ezeh & Nkamnebe, 2022). The growth of Islamic banking depends on the constant increase of its users. For this purpose, the stakeholders of Islamic banks in Pakistan need to develop an insightful understanding of the factors that influence the adoption.

During this study, it was noted that Islamic banking customers in Pakistan can be divided into two major groups religious and non-religious groups. Religious groups adopt or sustain Islamic banking for religiosity or just to avoid interest. Notably, for non-religious groups quality of the products and service, return, cost-effectiveness, convenience, etc are the key drivers. Islamic banks should get engaged with the State Bank of Pakistan to provide Shara-compliant and cost-effective products with better returns and improved service quality. During this study, it came under observation that even the customers of Islamic banks have insufficient knowledge about Islamic banking products and services. Islamic banks need to organize such campaigns that make people more aware of Islamic banking philosophy, products, and services. Bank workers including managers can play a major role in disseminating such information to existing and prospective customers. It was also reported by some researchers that the unavailability of Islamic banking branches especially in rural areas is one of the key factors in keeping people away from Islamic banking.

In summary, the study has been effective in adding to the body of knowledge about the connection between perceived innovational features and adoption. The study effectively investigated the hypothesis and found the answers to the research questions.

## References

- Ahmed, U. (2021). HRM and green innovation of manufacturing firms in Australia. Retrieved from <https://dialnet.unirioja.es/servlet/articulo?codigo=8051657>
- Ahmed, U., Umrani, W. A., Yousaf, A., Siddiqui, M. A., & Pahi, M. H. (2021). Developing faithful stewardship for environment through green HRM. *International Journal of Contemporary Hospitality Management, ahead-of-print*(ahead-of-print). doi:10.1108/ijchm-09-2020-1066
- Ahmed, S. (2022). *The risks faced by Islamic banks in Pakistan*. Academia.edu –
- Aliyu, S. U. R. (2012). Islamic banking and finance in Nigeria: issues, and institutions. Springer
- Akin, C. (1986). Interest-free banking and development [interest-free banking and development]. *Cultural Anthropology*. Kayihan Publications.
- Andrade, C. (2019). The P value and statistical significance: Misunderstandings, explanations, challenges, and alternatives. *Indian Journal of Psychological Medicine, 41*(3), 210-215. [https://doi.org/10.4103/ijpsym.ijpsym\\_193\\_19](https://doi.org/10.4103/ijpsym.ijpsym_193_19)
- Ayub, M. (2007). *Understanding Islamic Finance* (Vol. 462): John Wiley & Sons.
- Byers, J. (2021). *Top 5 perceived attributes of innovations and their effect on rate of adoption*. Vanguard Marketing International. <https://e-vmi.com/top-5-perceived-attributes-of-innovations-and-their-effect-on-rate-of-adoption/> challenges and opportunities
- Echchabi, A., Aziz, H. A., Ayedh, A. M., Azouzi, D., Musse, O. S. H., & Eddine, C. O. H. (2015). Current state and future prospects of Islamic banking in Morocco : An empirical investigation. *Journal of Emerging Economies and Islamic Research, 3*(2), 18-27. from <https://www.sbp.org.pk/ibd/Bulletin/2022/Mar.pdf> from [www.sbp.org.pk/ibd/bulletin/2021/Mar.pdf](https://www.sbp.org.pk/ibd/bulletin/2021/Mar.pdf)
- Hassan, A., & Mollah, S. (2018). *Islamic finance: Ethical underpinnings, products,*
- Haider, M. A. (2019). A comparative study of operational efficiency of Pakistani and Malaysian Islamic banks: Data envelopment analysis approach. *Asian Economic and Financial*

- Review, 9(5), 559–580. <https://doi.org/10.18488/journal.aefr.2019.95.559.580>
- ISLAMIC BANKING BULLETIN. (2021). Retrieved
- Kimball, E., & Loya, K. I. (2017). *Using qualitative research to promote organizational intelligence: New directions for institutional research, number 174*. John Wiley & Sons
- Khalil, F., & Siddiqui, D. A. (2019). undefined. *SSRN Electronic Journal*. doi:10.2139/ssrn.3397473
- Livingston, E. H. (2012). Minimum response rates for survey research. *Archives of Surgery, 147*(2), 110. doi:10.1001/archsurg.2011.2169
- Majeed, M. T., & Zainab, A. (2017). How Islamic is Islamic banking in Pakistan? *International Journal of Islamic and Middle Eastern Finance and Management*. International Sharia Research Academy for Islamic Finance, 10(4), 470–483. <https://doi.org/10.1108/IMEFM-03-2017-0083>
- Majekodunmi, D. (2015). *Perceived attributes of innovation*. 403 Forbidden. <https://blog.soton.ac.uk/skillted/2015/03/28/diffusions-of-innovation/>
- Masood, O., Javaria, K., & Bellalah, M. (2020). An empirical evidence of up-gradation need in Islamic banking sector of Pakistan. *International Journal of Entrepreneurship and Small Business, 39*(1/2), 311. <https://doi.org/10.1504/IJESB.2020.104256>
- Mirza, A. P. (2020). Worldwide: Number of Islamic banks by type 2019. <https://www.statista.com/statistics/1090895/worldwide-number-of-islamic-banks-by-type/MISquarterly>. *Korean Journal of Anesthesiology, 70*(4), 407–411, vii–xvi. missing values outliers.
- Mohr, J., SenGupta, S., Slater, & S. (2010). *Marketing of high-technology products and innovations*. New Jersey.
- Muslim population by country 2022. (2022). Retrieved from <https://worldpopulationreview.com/country-rankings/muslim-population-by-country>
- Pankratz, M. (2002). Measuring perceptions of innovation adoption: The diffusion of a federal drug prevention policy. *Health Education Research, 17*(3), 315–326. <https://doi.org/10.1093/her/17.3.315>
- Qureshi, M. H., & Hussain, T. (2022). Challenges and issues of green banking in Islamic and traditional banks of Pakistan. *Journal on Innovation and Sustainability RISUS, 13*(3), 4–24. <https://doi.org/10.23925/2179-3565.2022v13i3p4-24>
- Rogers, E. M. (2003). *Diffusion of innovation* (Fifth ed.) Free, Press, New York.
- Sekaran, U. (2003). Determining sample size. Sekaran. Uma (4th ed), *Research methods for business: A skill building approach*, 263–298 Share research.
- Siddiqui, S. H. (2001). Islamic banking: true modes of financing. *New Horizon, 109*, 15–20.
- State Bank of Pakistan. (2022). Retrieved
- Thambiah, S., Cyril Eze, U. C., Santhapparaj, A. J., & Arumugam, K. (2010). Customers' perception on Islamic retail banking: A comparative analysis between the urban and rural regions of Malaysia. *International Journal of Business and Management, 6*(1), 187. <https://doi.org/10.5539/ijbm.v6n1p187>
- Warde, I. (2000). Islamic finance in theory and practice. *Islamic Finance in the Global Economy*, 7–26. doi:10.3366/Edinburgh/9780748612161.003.0002
- Yocco, V. (2015). *5 characteristics of an innovation — Smashing magazine*. Smashing Magazine. <https://www.smashingmagazine.com/2015/01/five-characteristics-of-innovations/>