

## Awareness and Knowledge of Fintech among Islamic Banking and Finance Students in Pakistan

Hassnain Ali

Faculty of Islamic Economics and Finance, Universiti Islam Sultan Sharif Ali, Bandar Sri Begawan, Brunei Darussalam.

Hussnain756@gmail.com

Hadia Saqib Hashmi

School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

Muhammad Waqas Shahid

School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

Mohammad Zaki Zain

Faculty of Islamic Economics and Finance, Universiti Islam Sultan Sharif Ali, Bandar Sri Begawan, Brunei Darussalam.

Muhammad Hassan Abbas

School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

Usman Tariq

School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

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Hassnain Ali



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#### *Contact Information*



INSTITUTE OF ISLAMIC BANKING (IIB)  
UNIVERSITY OF MANAGEMENT AND TECHNOLOGY



C-II, Johar Town, Lahore



+92-42-3521-2801-10 (Ext – 3418)

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[ibfr@umt.edu.pk](mailto:ibfr@umt.edu.pk)

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## Awareness and Knowledge of Fintech among Islamic Banking and Finance Students in Pakistan

Hassnain Ali<sup>1\*</sup>

Mohammad Zaki Zaini<sup>2</sup>

Hadia Saqib Hashmi<sup>3</sup>

Muhammad Hassan Abbas<sup>4</sup>

Muhammad Waqas Shahid<sup>5</sup>

Usman Tariq<sup>6</sup>

### Abstract

**Purpose:** The paper aims to investigate the level of awareness of Islamic banking and finance students about the concepts and terms frequently used in Fintech. The impact of the demographics of respondents on their level of knowledge about Fintech is also analyzed.

**Design/methodology/approach:** Descriptive statistics are used to analyze the level of awareness and knowledge of students regarding Fintech. Multiple linear regression method is used to analyze the impact of the demographics of respondents on their level of awareness and knowledge about the concepts and terms used in Fintech.

**Findings:** Fintech emerged around the globe and reached its peak in recent years. The students of Islamic banking and finance industry cannot overlook this phenomenon and they need to be aware of this innovative and emerging industry.

**Originality/Value:** This paper draws the attention of academia including students, researchers, pen wielders and also of the practitioners of Islamic finance industry towards the dynamic area of Fintech and its applications that has not received enough attention so far. Thus, academia and industry may adopt an appropriate strategy regarding this issue.

**Keywords:** awareness, knowledge, Fintech, Islamic banking and finance, students.

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<sup>1</sup> Faculty of Islamic Economics and Finance, Universiti Islam Sultan Sharif Ali, Bandar Sri Begawan, Brunei Darussalam.

<sup>2</sup> Faculty of Islamic Economics and Finance, Universiti Islam Sultan Sharif Ali, Bandar Sri Begawan, Brunei Darussalam.

<sup>3</sup> School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

<sup>4</sup> School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

<sup>5</sup> School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

<sup>6</sup> School of Islamic Economics, Business and Finance, SIEBF, Minhaj University Lahore, Pakistan.

\* Corresponding Author Email: [Hussnain756@gmail.com](mailto:Hussnain756@gmail.com)



## Introduction

Fintech Industry is growing at an exponential rate which has led to the emergence of innovative business models. Advance technologies like Block chain, cloud computing, internet of things (IoT's), artificial intelligence (AI), and robo advisors have matured enough to create disruption in different industries like healthcare and manufacturing industry. These technologies also have a great potential to disrupt and also to support and accelerate the operations of banking and finance irrespective of conventional or Islamic finance industry. The most active areas of Fintech are data and analytics, artificial intelligence, digital payments, digital currencies, crowdfunding and other forms of peer to peer (P2P) financing. King (2010) forecasted that banks will have a very different organizational structure in future. He further posited that the entire customer facing organization and supporting platform needs to change radically.

We live in a world where being connected is not only an expectation, rather it has become a part and parcel of our day-to-day lives. We use multiple electronic devices simultaneously. We have smartphone (s), PC, tablet, web-enabled TV to stream content, gaming devices connected to the internet and more, all at the same time. So, we live in a hyper-connected world in this era of internet and 5G.

As customer expectations are changing, companies are forced to adapt. It is expected that till 2020, companies must focus on using big data to form a single source of truth and making customer decisions and intelligence accessible throughout the enterprise. In future, customers will want to do business with firms and companies that offer a consistent, informed and greater experience across all channels of communication, taking into consideration that different customers will have different preferences. Customers will want and expect to interact using their preferred method (Walker, 2016). According to the Mobile Economy Report 2016, the year 2015 has been a year of continued growth in the mobile industry, with more than 7.6 billion mobile connections (representing 4.7 billion unique subscribers) and operating revenues of more than \$1 trillion (GSMA, 2016). According to Pew research center, two-thirds of people worldwide are using the internet (Poushter, 2016).

Pakistan Telecommunication Authority (PTA) has recently reported that the number of annual cellular subscribers by March 2017 has exceeded 139 million (70% of population) (Pakistan Telecommunication Authority PTA, 2017). According to GSMA report, Pakistan will have 17 million new unique subscribers by 2020 (GSMA, 2017). The percentage of mobile broadband penetration has also improved from 3% to 16% (PTA, 2016). This shows the improvement in the adoption of mobiles and internet among Pakistanis. (Karandaaz Pakistan & Fin Surgents, 2017) provided a comprehensive study with the title “Seeding Innovation: A framework on rotting Fintechs in Pakistan” based on primary data



collected through face-to-face interviews with 57 senior executives and 3,000 surveys with professionals from Fintechs, microfinance and commercial banks, insurance, incubators, mobile financial services providers, startups, and telecom and technology companies. 92% senior executives and 80% middle managers in this Fintech survey agreed that Fintech not only offers the means for digitization but also has a significant role to play in emerging markets with low financial inclusion. This research also illustrates that there is a nascent ecosystem of Fintech existing in Pakistan but the gaps and hindrances in numerous information areas hamper the development and flourishing of the Fintech ecosystem in Pakistan. The main hindrance and the big information gap highlighted in this case study of Pakistan remains the lack of awareness and understanding regarding Fintech industry and the services and value that it offers in emerging markets like Pakistan.

It is a fact that Islamic banking and finance researchers and students have recently started to explore the emerging industry of Fintech with reference to Islamic banking and finance. There are some scholarly studies available with regard to the practice of Fintech within Islamic financial institutions published in the second half of 2017. (FINOCRACY and MIRAKHOR, 2017) provide a view on how Fintech can accelerate the adoption of risk sharing Islamic finance and focus on the Block chain technology and its potential in the enhancement of adoption of risk sharing finance.

Another study done by Lacasse, Lambert, & Khan (2017) focused on the Block chain technology and explored the possibility of using this technology for the assurance of *Shariah* compliance in Islamic finance industry. We have seen some general articles on different blog sites, social sites, magazines and newspapers from different authors like (Abdullah, 2017; Hasan, 2017; Mohamed, 2017; Munshi, 2017). These studies discuss different topics, like smart contracts in Islamic finance, Fintech opportunity or threat for Islamic finance, Fintech for Islamic finance, Fintech is a game changer for Islamic finance etc.

This paper aims to investigate the level of awareness of the Islamic banking and finance students about concepts and terms frequently used in Fintech. The impact of the demographics of respondents on the level of their knowledge and awareness of the terms and concepts about Fintech will also be analyzed.

The remainder of this paper is organized as follows. Firstly, there is an introduction of Fintech industry and its sub-segments. This part provides the definition of Fintech and its sub-segments embellished with a short explanation and facts and figures related to them. This section of introduction of Fintech industry is followed by the methodology section that describes the method of investigation to attain the aims of this study. Next, the findings and discussion section outlines the findings from the survey and also discusses the results



concluded from the statistical analysis of the data. Finally, the section on conclusion and recommendation provides the final words on this research along with some recommendations.

## 2. Problem Statement

History has witnessed four stages of industrial revolution. The first industrial revolution used steam power and water to mechanize and increase production. The second used electric power to create the bulk production. The third used advanced electronics and information technology to make the production autonomous. Now, we are witnessing the second phase of the third Industrial revolution; the digital revolution that started and has been going on since the middle of the last century. It is typified by a fusion of technologies and cyber-physical systems that are blurring the lines between the economic, physical, biological, and digital spheres.

In the post-industrial stage i.e. 4, also known as technological revolution era, Fintech has become one of the most dynamic, engaging, and energetic segments of the financial services marketplace. New and innovative Fintech business models exclusively offer one or more specific financial products or services in an automated way through the use of the internet and digital channels. By adopting digital channels, they unleash the various financial products and services traditionally served by service providers such as formal incumbent banks, brokers or investment managers. Here, for example, robo-advisers offer automated investment advice. Equity crowd funding platforms intermediate share placements, peer-to-peer lending platforms intermediate loans, and social trading platforms offer brokerage and investing services. Emerging and advanced technologies such as machine learning, artificial intelligence, cognitive computing, and distributed ledger technologies (DLT) can be used to supplement both Fintech's new entrants and traditional incumbents and they have the potential to materially change the financial services industry. (International Organization of Securities Commissions (IOSCO), 2017). According to World Bank (2016) report, Fintech can provide access to financial solutions for an estimated two billion adults who are currently unbanked.

Fintech is growing at an exponential rate which leads to the emergence of innovative business models. The segments of Fintech that attracted the most investments in 2016 were Insurtech with \$2.2 billion, followed by Direct Lending with \$1.9 billion and P2P lending (\$1.1 billion). In the infrastructure and enabling technologies category, main investments went into business tools (\$697 million) - a strong sign of digital transformation of enterprises and crypto currencies (\$374 million) (Su, 2016).



Fintech has become a prominent emerging industry which is revolutionizing the overall banking and finance industry. The upshot and gist of the above discussion leads to the problem statement that concerns the level of awareness and knowledge of Islamic banking and finance students about this emerging industry. The conjecture of the study is that the lack of awareness and knowledge of this emerging industry in the stakeholders of Islamic financial industry including researchers, students of Islamic finance, bankers and practitioners etc. can result into disruption and is dwindling the prospects of future growth of Islamic finance industry.

### 3. Fintech Industry and its Sub-segments

After attempting the analysis of 200 scholarly articles using the term Fintech and covering a period of more than 40 years, Schueffel, (2016) provides the definition of Fintech “Fintech is a new financial industry that applies technology to improve financial activities”.

This term was used for the first time by Bettinger, (1972) in his writing “FINTECH: A Series of 40 Time Shared Models Used at Manufacturers Hanover Trust Company.” The most famous origin of the term can be found and traced to the early 1990s and referred to as the “Financial Services Technology Consortium”, a project which was started by Citigroup in order to assist technological cooperation efforts. Santarelli (1995) cited many studies on technological innovation and economic advancement conducted during the 1980s and 1990s, which showed that economic development can be enhanced and reinforced by the fusion of new technologies. However, it is only since 2014 that this sector has attracted the attention of industry participants, regulators, and consumers alike.

Cloud computing, big data and analytics, developers on demand, social media, an open app store for distribution and Block chain can enable rapid technology adoption and deployment in the financial services industry especially in the Fintech sector and in particular in the payment industry. These technologies could leapfrog antiquated payment mechanisms and systems in several areas such as cross-border payments. Additionally, the use of Bluetooth, NFC, and QR codes in contactless merchant based payments is also a strong threat to the existing and present payment models (PricewaterhouseCoopers, 2016).

Crowd funding is a term that refers to the practice of generating funds or capital investments for a reasonable cause, project, or enterprise by getting funds from many individuals or organizations. Crowd funding is adopted when an innovative and new idea, that has the potential to generate revenue and create jobs, requires financial support to become a reality. Crowd funding mostly takes place on crowd funding platforms (CFPs) which are internet-based platforms that





connect fundraisers to funders with the objective of funding a particular campaign, typically by many individuals (Belleflamme et al., 2015).

These crowd funding platforms provide access to funds and capital for the segment of population that cannot have an easy access to it through traditional means. The analysts forecast the global crowd funding market to grow at a CAGR of 26.87% during 2016-2020 (Research and Markets, 2016). Block chain is a public ledger of business transactions. A Block chain network works as an intermediary in a decentralized system for the exchange of assets and information. There are two main technology components which are ‘peer-to-peer’ or shared data storage and public-key cryptography (Mainelli and Milne, 2016). There are different kinds of potential and existing activities in the Block chain revolution which are broken down into three categories, Block chain 1.0, 2.0, and 3.0. Block chain 1.0 refers to the deployment of crypto currencies in applications related to cash, such as remittance, currency transfer, and digital payment systems. Block chain 2.0 refers to contracts, the entire ballet of economic, financial, and market applications using the Block chain technology that is more extensive than simple cash transactions including stocks, bonds, futures, smart property, loans, titles, mortgages, and smart contracts. Block chain 3.0 refers to Block chain applications beyond finance, currency, and markets particularly in the areas of government, literacy, science, health, art, and culture (Swan, 2015). Accenture reports that Block chain is one of the most talked about topic in the present financial services industry. 90% banks executives are interested in Block chain and currently their banks are exploring its use in the payment industry. Moreover, this report also highlights the benefits of using this technology in payment industry. These benefits include lower frictionless cost, shorter settlement time, reduced number of errors, new revenue opportunity, and lower administrative cost (Accenture, 2016).

Cloud computing has become an emerging, dynamic and most discussable topic in both academia and industry. The U.S. National Institute of Standards and Technology (NIST) has defined it as “as a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management efforts”. (Hawes, 2010). In Tech Target’s forecast, 80% financial services institutions will run on hybrid cloud architecture by 2018 (TechTarget, 2016). A research firm International Data Corp (IDC) defines big data as “the intelligent economy produces a constant stream of data that is being monitored and analyzed. Social interactions, simulations, mobile devices, facilities, equipment, R&D, and physical infrastructure all contribute to the flow. In aggregate, this is what is called Big Data” (International Data Corp. (IDC), 2012).

The emerging firms called Fintechs are leveraging client algorithms and information to develop automated portfolio allocation and investment



recommendations tailored to individual customers. They have coined the term “robo-advisors”. Clients can easily access robo-advice through digital user channels for low fees and sometimes free of cost (Deloitte United States, 2016). Robo-advisors have the ability to eliminate behavioral biases and handle routine account maintenance without human involvement. Robo-advisors quickly attained market traction, overseeing \$19 billion by the end of 2014. KPMG and CGI forecast that the number will be hitting \$2 trillion in assets by 2020 (Patpatia & Association, 2016). Artificial intelligence (AI) in this digital era has also become a hot topic for some time now, with many talking about the advantages that it can bring to the financial services industry. AI can help banks in their anti-money laundering AML or employee misconduct detection efforts by replacing costly functions that are currently performed manually by humans (Arslanian, 2016). Internet of Things (IoT) is an emerging and new paradigm in the science of computers and technology in a general sense. In the past few years, it has invaded our lives and is getting ground as one of the most promising technologies. According to the European Commission, IoT involves “Things having identities and virtual personalities operating in smart spaces using intelligent interfaces to connect and communicate within social, environmental, and user contexts” (Atzori et al., 2010). The number of objects able to record and transmit data to other objects is continually growing. It is forecasted that the number of devices connected to the internet will increase from 10 billion today to 50 billion by 2020 (Payvision, 2016). The IoT could give retailers, sellers and their banks access to real-time detail they need regarding things and goods in transit (Santander, 2015).

#### **4. Methodology**

This section explains the method of analysis and investigation on which this study is based and which is geared to achieve the abovementioned objectives.

##### **4.1. Questionnaire Design**

A self-developed questionnaire was used to gather primary data from the respondents. There were three parts of the questionnaire. The first part had the title ‘awareness and knowledge of Fintech’ and encompassed 09 questions. The answers were graded at a five-point Likert scale with the options ranging from “Not at all aware” to “Extremely aware”. The second part of the questionnaire was composed of only 3 questions which dealt with the opinion of students about the curriculum and their willingness to get the appropriate the knowledge of Fintech. The third and final part of the questionnaire was about the demographics of the respondents including their age, university, and gender etc.

##### **4.2. Sample Size and Collection of Data**

Fieldwork was conducted and the questionnaire was distributed among the Islamic banking and finance students of three selected universities including





University of Management and Technology (UMT), Lahore, Minhaj University, Lahore and International Islamic University Islamabad (IIUI). More than 80 questionnaires were distributed but only 50 students recorded their responses.

### 4.3. Model Specifications

Descriptive statistics was used to analyze the level of knowledge and awareness of students regarding Fintech. Multiple linear regression method was used to analyze the impact of the demographics of respondents on their level of awareness and knowledge about the concepts and terms used in Fintech. Numerous researches have been conducted regarding the awareness of different variables among students of different faculties in various countries in which the regression method has been used as a tool of investigation (see: Ishemoui, 2007; Mohamed Musse, 2015; Noonari, 2015; Saiti, 2015).

The model used in this study is as follows,

$$Y = \alpha + \beta_1 \text{age} + \beta_2 \text{university} + \beta_3 \text{gender} + \beta_4 \text{degree} + \beta_5 \text{area of study}$$

Y = Dependent variable and in the model it denotes students' score regarding awareness and knowledge of Fintech.

$\alpha$  = the intercept term

Age = Dummy variable; it is one if the respondent's age is above 25, zero otherwise.

University = Dummy variable; it is one if the respondent from UMT, zero otherwise.

Gender = Dummy variable; it is one if the respondent is female, zero otherwise.

Degree = Dummy variable; it is one if the respondent a postgraduate student, zero otherwise.

Area of interest = Dummy variable; it is one if the respondent's area of interest is Islamic finance, zero otherwise.

## 5. Findings and Discussion

### 5.1. Demographics

Table 1

*Demographic Variables of Respondents*

<b>Gender</b>	<b>No of Respondents</b>	<b>Proportion</b>
Male	19	38%
Female	31	62%
<i>Total</i>	<i>50</i>	<i>100%</i>
<b>Age</b>	<b>No of Respondents</b>	<b>Proportion</b>
<i>30 and Less than 30 (Years)</i>	<i>35</i>	<i>70%</i>
<i>Above 30</i>	<i>15</i>	<i>30%</i>
<i>Total</i>	<i>50</i>	<i>100%</i>
<b>Area of Interest</b>	<b>No of Respondents</b>	<b>Proportion</b>



Islamic Banking and Finance	44	88%
Others (Economics, Math)	06	12%
<i>Total</i>	<i>50</i>	<i>100%</i>
<b>Affiliation</b>	<b>No of Respondents</b>	<b>Proportion</b>
Minhaj University	15	30%
UMT	25	50%
<i>IIUI</i>	<i>10</i>	<i>20%</i>
<i>Total</i>	<i>50</i>	<i>100%</i>
<b>Degree</b>	<b>No of Respondents</b>	<b>Percentage</b>
Undergraduates	22	44%
Postgraduates (MS+ Ph.D.)	28	56%
<i>Total</i>	<i>50</i>	<i>100%</i>

The figures given in table1 show that the majority of respondents (62%) are female. Only 28% respondents are male. 70% respondents are 30 years old or less while 30% respondents are above 30. This table also shows that the majority of students (88%) have an interest in the field of Islamic finance and only 12% showed interest in other areas like economics, business, math etc. Two other important pieces of information that could be derived from table1 include the academic affiliation and degree of the respondents. The majority of respondents (50%) are from University of Management and Technology (UMT), Lahore, followed by respondents from Minhaj University, Lahore (30%) and from International Islamic University Islamabad (IIUI) (20%), respectively. 44% respondents are undergraduate students and 56% percent are postgraduate students.

## 5.2. Awareness and Knowledge of Fintech

### 1. Are you familiar with the term Fintech?

Table 2

*Are you familiar with the term Fintech*

Familiarity	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	24	9	7	8	2	50
Percentage	48%	18%	14%	16%	4%	100%

This table shows that only 2% respondents are very familiar with the term Fintech, 16% are moderately familiar with this term, 14% are not sure about this term and 18% have very little familiarity with Fintech. The majority of respondents (48%) have no idea and knowledge of this term.

### 2. Are you familiar with Block chain and smart contracts and their use in banking and finance industry?



Table 3

*Are you familiar with Block chain and smart contracts and their use in banking and finance industry*

Block chain	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	29	7	4	5	5	50
Percentage	58%	14%	8%	10%	10%	100%

This table shows that 10% respondents are extremely aware and another 10% are moderately aware about Block chain and smart contracts and their use in banking and finance industry. 8% respondents have somewhat awareness and 14% respondents are only slightly aware. The majority of respondents (58%) have no knowledge about Block chain and smart contracts and their use in banking and finance industry.

3. To what extent you know about neo-banking or digital-only banking?

Table 4

*To what extent you know about neo-banking or digital-only banking*

Neo-Banking	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	22	8	7	6	7	50
Percentage	44%	16%	14%	12%	14%	100%

This table shows that 14% respondents have an extreme level of awareness about neo-banking, 12% are moderately aware and another 14% have some know how about it. This table elucidates that 14% respondents are extremely aware about digital-only banking, 12% know moderately about it and 14% know somewhat. 16% respondents have a very low level of knowledge about neo-banking and again the majority of respondents (44%) have no knowledge and their level of awareness is zero.

4. Do you know about crowd funding?

Table 5

*Do you know about crowd funding*

Crowd funding	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	34	5	2	6	3	50
Percentage	68%	10%	4%	12%	6%	100%

This table highlights that only 6% respondents are fully aware about crowd funding, 12% have a moderate level of knowledge and 4% respondents know somewhat about it. 10% percent respondents have very little knowledge of crowd



funding and the majority of respondents (68%) are totally unaware about this phenomenon.

5. Do you know about cloud computing and its adoption in banking and finance industry?

Table 6

*Do you know about cloud computing and its adoption in banking and finance industry*

Cloud Computing	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	32	7	3	5	3	50
Percentage	64%	14%	6%	10%	6%	100%

This table explains that merely 6% respondents are extremely aware about cloud computing and its adoption in banking and finance industry. 10% are moderately aware and 6% know somewhat about it. 14% respondents have very little knowledge about this phenomenon and the majority of respondents (64 %) have no idea about cloud computing and its adoption in banking and finance industry.

6. Are you aware about big data analytics and its use in banking and finance industry?

Table 7

*Are you aware about big data analytics and its use in banking and finance industry*

Big Data	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	23	9	4	8	6	50
Percentage	46%	18%	8%	16%	12%	100%

This table shows that 12%, 16% and 8% of respondents are extremely, moderately and somewhat aware about big data analytics and its use in banking and finance industry, respectively. 18% respondents are slightly aware and the majority of respondents (46%) have no knowledge about big data analytics and its use in banking and finance industry.

7. Do you have knowledge about robo advisors in banking and finance industry?



Table 8

*Do you have knowledge about robo advisors in banking and finance industry*

Robo Advisors	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	35	4	6	3	2	50
Percentage	70%	8%	12%	6%	4%	70%

This table highlights that only 4% respondents are fully aware about robo advisors in banking and finance industry, 6% have a moderate level of knowledge and 12% are somewhat aware about robo advisors. 8% respondents have very little knowledge and the majority of respondents (70%) are totally unaware about robo advisors in banking and finance industry.

8. Do you know about artificial intelligence AI and its usage in banking and finance?

Table 9

*Do you know about artificial intelligence AI and its usage in banking and finance*

AI	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	25	10	6	6	3	50
Percentage	50%	20%	12%	12%	6%	100%

This table shows that only 6% respondents are extremely aware about artificial intelligence and its use in banking and finance industry. 12% respondents are moderately aware and another 12% have somewhat awareness about it. 14% respondents are slightly aware and the majority of respondents (50%) have no knowledge about artificial intelligence and its use in banking and finance industry.

9. Do you know about Internet of things (IoT's) and its usage in finance industry?

Table 10

*Do you know about Internet of things (IoT's) and its usage in finance industry*

IoT's	Not at all	Slightly	Somewhat	Moderately	Extremely	Total
No of Respondents	27	9	5	4	5	50
Percentage	54%	18%	10%	8%	10%	100%

This table explains that merely 10% respondents are extremely aware about internet of things and its use in banking and finance industry, 8% are moderately aware, and 10% know somewhat about it. 18% respondents are only slightly aware and 54% have no idea about internet of things and its use in banking and finance industry.



Table 11  
*Chart of All answers of Respondents*

Questions	Total No of Respondents	Not at all %	Slightly %	Somewhat %	Moderately %	Extremely %	Total %
Q1	50	48%	18%	14%	16%	4%	100%
Q2	50	58%	14%	8%	10%	10%	100%
Q3	50	44%	16%	14%	12%	14%	100%
Q4	50	68%	10%	4%	12%	6%	100%
Q5	50	64%	14%	6%	10%	6%	100%
Q6	50	46%	18%	8%	16%	12%	100%
Q7	50	70%	8%	12%	6%	4%	100%
Q8	50	50%	20%	12%	12%	6%	100%
Q9	50	54%	18%	10%	8%	10%	100%
Average	50	56%	15%	10%	11%	8%	100%

This table provides a holistic overview of the percentage of responses of 50 respondents to 09 questions. This table also shows that on average only 8% respondents are fully aware about Fintech and its sub-segments including Block chain, cloud computing and crowd funding etc. 11% and 10% respondents are moderately and somewhat aware about Fintech and its sub-segments, respectively. 15% have very little awareness and the majority of the respondents (56%) are completely unaware about Fintech and its sub-segments.

### 5.3. Impact of Demographics on Awareness and Knowledge

In this section, 09 questions were formulated relevant to different terms used in Fintech. Each correct answer was given the score of 1-5 (Strongly disagree=1...Strongly agree=5) that yielded a maximum score of 45 which was used as a dependent variable with 5 independent or explanatory variables including age, gender, area of study, degree, and university at 5% level of significance.

Table 12  
*ANOVA results for Impact of demographics on awareness and knowledge*

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1335.565	5	267.113	4.387	.003 <sup>b</sup>
	Residual	2679.255	44	60.892		
	Total	4014.820	49			

a. Dependent Variable: Awareness

b. Predictors: (Constant), Gender, Area of Study, Age, Degree, Uni





Table 12 gives the significance value which is also denoted as p value. Here, in this model, the p value is .003 which is less than .005 ( $p < \alpha$ ). It means that the model is fit and these predictors have the capacity to predict the dependent variable.

Table 13

*ANOVA results for Impact of demographics on awareness and knowledge*

Variables	Coefficients	Std. Error	t-value	Sig,
Constant	17.912	5.106	3.508	.001
Age	-11.607	3.216	-3.610	.001
University	8.939	5.912	1.512	.138
Gender	1.529	3.682	.415	.680
Degree	5.496	4.861	1.131	.264
Area of interest	-5.406	3.816	-1.417	.164
R <sup>2</sup>	.333			
Adjusted R <sup>2</sup>	.257			
Sig	.003			

Table 13 provides the summary of the model which is being used in this analysis. In this table, adjusted R value denotes that predictor variables are predicting the dependent variable, that is, awareness within the variance of 25.7%.

This table also describes the coefficient, t and sig values of each independent variable while keeping other variables constant. So, in this table there is only one independent variable or predictor, that is, age which has a significant value  $.001 < .005$ . It means that this predictor has a significant impact on the dependent variable, that is, awareness. The coefficient value of this predictor is -11.607, which shows that as the age increases the level of awareness decreases. In other words, younger students are more aware than older ones and vice versa. This can be justified because younger students are more tech savvy than older ones.

The table also shows that, surprisingly, the other four predictors (university, gender, degree and area of interest) have non-significant values (all have  $p > \alpha$ ). It means that in this model these four are not predicting or showing an impact on the dependent variable, that is, awareness. The significance value of the model mentioned in tables 12 and 13 is .003, which shows the fitness of the model and the capacity of all the predictors to predict the dependent variable.

There may be some reasons and factors involved here which lead to the insignificance of the four predictors. One reason is the novelty of the topic which is Fintech. It is a very new topic in academia and Islamic finance industry, especially in Pakistan. Another reason is the smallness of data along with randomization of sample. There were only 50 respondents and the data was not



collected from an equal number of students from each university. Table 11 shows that a high percentage of respondents (71%) are totally unaware or have very little awareness of Fintech, irrespective of university, gender, degree and area of study. These are the factors which lead to the non-significance of the four predictors in predicting the dependent variable. But this insignificance is also meaningful in the sense that if these factors are removed then more comprehensive results can be achieved.

#### 5.4. Opinion of Respondents about Academic Syllabus and Their Willingness to Acquire Knowledge of Fintech

This section encompassed only 3 questions which dealt with the opinion of students about the academic syllabus and their willingness to know Fintech.

1. Is Fintech covered in your academic syllabus?

Table 14

*Is Fintech covered in your academic syllabus*

Syllabus	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
No of Respondents	21	15	6	5	3	50
Percentage	42%	30%	12%	10%	6%	100%

This table shows that 42% and 30% respondents either strongly disagree or disagree respectively with the statement and opine that Fintech is not covered in their academic syllabus. Another 12% are not sure. 10% think that Fintech is covered in their academic syllabus. A merely 8% of respondents opine that Fintech is fully covered in their academic syllabus.

2. Do you feel that each student of Islamic banking and finance should have proper knowledge of Fintech?

Table 15

*Do you feel that each student of Islamic banking and finance should have proper knowledge of Fintech*

Knowledge	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
No of Respondents	5	3	5	14	23	50
Percentage	10%	6%	10%	28%	46%	100%

Table 15 shows that 46% and 28% respondents either strongly agree or agree respectively and think that Islamic banking and finance students must have proper knowledge of Fintech. Another 10% respondents are not sure. 6% disagree with this statement and the remaining 10% strongly disagree.



3. Students of Islamic Banking and Finance should take a course about Fintech.

Table 16

*Students of Islamic Banking and Finance should take a course about Fintech*

Course	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
No of Respondents	4	1	5	16	24	50
Percentage	8%	2%	10%	32%	48%	100%

Table 16 elucidates that 48% and 32% respondents either strongly agree or agree respectively with this statement and opine that Islamic banking and finance students should take a course about Fintech. Only 2% disagree and another 8% strongly disagree with this statement. 10% are not sure.

## 6. Conclusion and Recommendations

There is clear evidence that Fintech industry is growing at an exponential rate, which leads to the emergence of innovative business models. Advanced technologies like Blockchain, cloud computing, internet of things (IoT's), artificial intelligence (AI) and robo-advisors have become mature enough to create disruption in different industries like healthcare and manufacturing etc. These technologies have not only a great potential to disrupt but also to support and accelerate the operations of banking and finance industry irrespective of its being conventional or Islamic. The most active areas of Fintech are data and analytics, artificial intelligence, digital payments, digital currencies, crowd funding and other forms of peer to peer (P2P) financing etc.

The gist of the findings and discussion is very clear and it says that the majority of the Islamic banking and finance students in Pakistan are not well aware of Fintech. This attitude of unawareness is common among all the students irrespective of degree, area of interest, gender, age, and university. The statistical analysis clearly shows that the level of unawareness is significant among older students as compared to younger ones. This can be justified as studies show that younger students are more tech-savvy than older ones.

The findings also highlight that the majority of students believe that their academic syllabus doesn't cover the content of Fintech and its sub-segments. They also think that they need to be aware of Fintech and they should get proper knowledge of it. Finally, the majority of students also show consensus on taking a course about Fintech. This shows that students have become familiar with Fintech from this survey and also consider it important to be aware about Fintech and its sub-segments, especially in this era of digitalization.



The study also gives the following recommendations:

The educational institutions in general and especially syllabus committee of Islamic finance departments of universities should revise the academic curriculum and design a comprehensive course on Fintech for Islamic finance students. Institutions should offer training programs and also organize workshops and seminars to promote and uplift the level of awareness of students about the new and emerging industry of Fintech. This kind of initiative and programs will enable the graduates to enhance their scope and diversify their opportunities and will allow them to compete in the changing environment of the financial industry. The students of Islamic banking and finance should acquire knowledge of Fintech themselves from different sources, such as research papers on Fintech and internet etc. The knowledge and awareness of Fintech is very important for Islamic finance students to cope with the demands of this digital era.



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