



Digital Happiness in Smart Banking: Personalised Service Quality, Customer Experience, and Loyalty Insights

Mounir El Khatib*, Fatima Al Derei¹, Latifa Al Mutaiwei¹, Maryam Al Hmoudi¹

¹School of Business & Quality Management, Hamdan Bin Mohammad Smart University. Dubai, UAE

*Corresponding Author

ARTICLE INFO

Keywords:

SMART services, Service quality, Happiness indicators, Finance, Banking

Received: Jan, 21, 2025

Accepted: Mar, 24, 2025

Published: Jun, 25, 2025

ABSTRACT

The aim of study is to identify the level of happiness of the customers with the smart service quality of the banks. To measure the level of happiness, the study has focused on identifying the determinants of customers' happiness. The study is based on the banking sector organizations of UAE that's why a total of three banks were selected to conduct the study. The study has measured the personalized smart services of the banks and their influence on the indicators of the happiness. The study collected the data from both primary and secondary methods. Both surveys and interviews were conducted to know the current situation. The findings of the study indicated that personalized services of the banks influence the satisfaction level of the customers and this is an indicator of happiness and loyalty.

1. INTRODUCTION

In the banking sector, e-services are becoming increasingly popular as it is facilitating more advance and robust services to the customers. As the growth in the banking sector is determined by the level of service quality provided by the particular banks that's why banking organizations are now focusing on improving the service quality rather than offering more product. If the service quality of a firm is high customers automatically get attracted towards that particular bank (Chang et al., 2009; Santos, 2003). Service quality can be defined as the customer judgment about the e-services of the bank in terms of their ease of use, availability, reach and their quickness and performing the each and every service provided by the bank (Ping et al., 2012).

This research report is all about smart service quality of the banking sector organizations and how they influence the satisfaction level of the customers (Sihag et al., 2024; Treacy et al., 2025; El Khatib et al., 2023). The research also focusing on

the determinants of the customer satisfaction with the outcomes of the service quality they receive from their providers. The customer satisfaction is defined as the extent to which customers are using the e-services of the banks and showing their interest in using them. It is necessary to measure the level of customer satisfaction with the quality of eservices of the bank as the high level of satisfaction of the customer creates customer loyalty and increase customer retention (AlMidfa et al., 2024; Naim et al., 2024; Khan et al., 2023). As of now, many studies have been conducted in this reference and they have analyzed the level of customer satisfaction with the quality of e-services provided by the bank. The study is also exploring the determinants of the customer happiness with the e- services of banks and personalization of smart services.

1.1. Organizations Overview

1.1.1. Emirates NBD

One of the largest banks in the region was formed on 16th of October 2007 when the Emirates Bank International and the National Bank of Dubai has merged. The bank has 9,000 people from 70 different nationalities with more than 220 branches across UAE, and more than 940 ATMs (Kabiraj et al., 2011; Joghee et al., 2021; Rosmadi et al., 2025).

Vision: To be globally recognized as the most valued financial service provider in the Middle East (Shwedeh et al., 2023; AlQassem, 2022; Kofinas et al., 2016).

Values: Customer Focus, Service Excellence, Innovation, Passion for performance, Integrity & Teamwork.

1.1.2. National Bank of Abu Dhabi

Considered as the UAE largest bank and first bank that expand overseas in 19 different countries other than UAE with more than 60 branches starting its journey with its first branch in Egypt. NBAD was founded in 1968 as Abu Dhabi first bank (Razmak et al., 2018; Murtaza et al., 2024; Yasir et al., 2024).

The bank has a clear corporate governance system, which consists of four guiding principles, which included the following: leadership, accountability, transparency, and strong corporate governance standards (AlShawabkeh et al., 2016; AlKatheeri et al., 2025; Naim et al., 2025).

In line with its commitment to put customers first, NBAD is constantly showing their investment in people and technology to create the most customer-friendly banking experience.

1.1.3. Dubai Islamic Bank

Dubai Islamic Bank, the world's first Sharia compliant competitor and the first Islamic bank in UAE has been established in 1975. The bank has more than 8000 employees across various branches internally and externally (Shwedeh & F., 2021; Shao et al., 2025; Kabiraj et al., 2009).

Vision: "To be the most progressive Islamic Financial Institution in the World (Alzoubi et al., 2024; El Khatib et al., 2023; Joghee et al., 2024)."

Mission: "To maintain and improve our position as the world's leading Islamic bank through unsurpassed customer service, innovation, growth and consistent employee engagement (Neyara Radwan et al., 2025; El Khatib et al., 2022; Joghee et al., 2020)."

The bank is known as a customer-centered institution, and reflects the diversity & growth of the city that named after. And as being based in Dubai, and as a Smart City the bank has established the "Smart Bank" (AlHamadi et al., 2024; El Khatib et al., 2023; Khan et al., 2024) which made the banking experience easier for the customers through online and mobile banking.

1.2. Research Objectives

This research aims to study the smart service quality in banks and highlight the importance of the smart service (mobile banking, online banking) provided in regard to raising the customers' happiness indicators. In addition to that, it will also study the ability of proposing a new way that might increases the customer happiness indicators by personalizing their smart services, which meet their requirements (AlShawabkeh et al., 2017; Maydybura et al., 2024; Karthika et al., 2024).

1.3. Research Questions

1. Is personalizing the smart services for the customers would increase the happiness indicators of them?
2. Can banks personalize the quality of the smart services they provide increase the happiness indicators?

2. LITERATURE REVIEW

2.1. Electronic banking

The banking industry recently has been focusing on electronic banking (e-banking) as new channel to deliver its services (Shwedeh et al., 2024; Khan et al., 2024; El Khatib et al., 2023). The concept of digital banking has been defined in many ways. One common definition is the delivery of banks' services and products to customers through various platforms, which can be used in various digital channels such as computers and smartphone using browser or software, telephone or T.V (Hackett et al., 2004; Alzoubi et al., 2024; Anifa et al., 2024; Shao et al., 2025). According to Magembe and Shemi (2002), electronic banking is all about e-business in the industry of banking. There are many electronic banking channels that offering service and product to customers (Alshurideh et al., 2022; AlNajdawi et al., 2024; Ma'asor et al., 2023). Most common and more discussed channels include ATM, POS, internet banking and mobile banking (Worku, 2016). As for

internet banking concept, it enable customers to inquire financial transactions on a secure website provided by the financial institution that can be a retail or virtual bank, credit union or society (Alshurideh et al., 2025; Sihag et al., 2024; El Khatib et al., 2022). Mobile banking is a concept that deliver some services such as balance checks, account transactions, payments, credit applications via a mobile device like a mobile phone or Personal Digital Assistant (Tiwari and Buse, 2007).

2.2. *Electronic service quality*

The quality of e-services has recently become more popular subject for researches due to new development and growth of e-commerce (Joghee et al., 2018; Alzoubi et al., 2025; Som et al., 2023). Quality consider one of the things that consumers look for in an offer, which service happens to be one (Solomon, 2009). Service quality defined as the long term judgement or attitude related to the excellence of an organization (Ma and Zhao, 2012). Researches have defined a variety of theory related to the definitions of e-services (Sylvie & Ina, 2010). As for the concept of electronic service quality, it is defined as customer judgment and conclusion of the excellence and quality of e-serve provided in the virtual marketplace (Santos, 2003). Another definition by Parasuraman (2005), is the degree of an electronic system facilitates efficiency and effectiveness in service delivery (Kharbat et al., 2017; Anifa et al., 2024; Salloum et al., 2024). Gronroos (1982) considers services as products requiring, to a large extent, the consumer's involvement in the process of production and consumption; during which consumers compare their expectations about the service with what they actually receive (Yas et al., 2024; El Khatib et al., 2024; Alblooshi et al., 2025). The result of this comparison is perceived service quality (Parasuraman et al., 1985, 1988).

2.3. *Measurement of quality services*

Due to the increased use of electronic services and the importance of monitoring and measuring e-service quality, many studies identified several measurement, which may help to improve and control the performance of online business (Yang & Jun, 2002). For example, Zeithaml et al. (2002), developed a seven dimensional items called e-SERVQUAL include efficiency, reliability,

fulfillment, privacy, responsiveness, compensation and contact. Parasuraman et al. (2005) stated information availability and content; ease of use or usability; privacy or security; graphic style; and reliability or fulfillment as five criteria of e-service quality. SERVQUAL has been widely used in a variety of service industries, including the banking industry (e.g. Joseph et al., 1999; Jun et al., 1999; Caruana, 2002; Joghee et al., 2013; Habbal et al., 2019; Alshurideh et al., 2025).

2.4. *Service quality and customer satisfaction*

It is in line with the fact that service quality is a determinant of customer satisfaction, because service quality comes from outcome of the services from service providers in organizations (Cronin & Taylor, 1992). Customers estimate their treatment depends on their personal experiences and expectations with the service. Szymanski and Hise (2000), stated that customer satisfaction is referred to the extent to the customer satisfaction with e-banking experience. A research conducted by El-Kasheir et al. (2009) recommended that all banking channels should be strategically deployed with the aim to reach high customer satisfaction and retention (Khatib et al., 2024; Hanaysha et al., 2021; AlNajdawi et al., 2024).

Researchers also have found the significant link between service quality and customer satisfaction (Yang and Fang, 2004; Kumbhar, 2011; Ping et al., 2012). It is reasonable for customers to be satisfied based on the quality of services received, the variety of product or services offered and ability to personally interact with e-banking and effectively accomplish a transaction (Kumar et al., 2024; Ahmed et al., 2024; Alshurideh et al., 2024). Moreover, e-service quality influences customer satisfaction and accordingly creates customer loyalty (Chang et al., 2009). Chu et al. (2012) examined the relationships between service quality, customer satisfaction and loyalty and concluded that service quality determines consumer's satisfaction, and consumer satisfaction has a major effect on loyalty (Al-Qassem et al., 2021; Rana et al., 2025; Halder et al., 2024). Research linked online service quality to typical customer retention outcomes such as e-loyalty (e.g. Ribbink et al., 2004; Parasuraman et al., 2005), customer satisfaction (Al-Hawari and Ward, 2006) and e-trust (Ribbink et al., 2004). Hence, Al-Hawari and Ward (2006) stated that the main goal of

delivering online service quality by banks is customer retention. Santos (2003) determined that banking success is dependent upon service quality (Kanwal et al., 2023; AlMidfa et al., 2024; El Khatib et al., 2023).

2.5. *Quality services and happiness indicator*

There is increasing number of research advocating the need to extend satisfaction paradigms to incorporate “higher levels” of satisfaction in assessing service quality outcomes (Oliver, 1997). From customer perspective, service quality not only provides satisfaction but also leads to an increased feeling of happiness (Alzoubi et al., 2024; Pande et al., 2024; Al-Nakeeb et al., 2024). Thus, service quality can improve profitability and people’ well-being (i.e. increased happiness). Technical service quality have positive impacts on consumer happiness. There is some evidence that many customers may switch brands even though they are satisfied with existing levels of service quality (Keaveney, 1995) also customers may feel dissatisfied if provided with basic levels of service quality. The study also demonstrated that managers of service organizations could create and enhance consumer happiness by delivering excellent technical and functional service quality.

2.6. *Personalization*

Modern marketers understand that engaging customers through personalized services as customer preferences of bank continuously change (AlShawabkeh et al., 2023; Shao et al., 2025; Ilyas et al., 2023). A recently definition by Ball, Coelho and Vilares (2006) is that any creation or adjustment of a service to suitable the individual requirements. Personalization allows organization to equal the right product or service to the right customer, for the right price, at the right time (Coner, 2003; Tanveer et al., 2025; Kofinas et al., 2016; El Khatib et al., 2024). Prahalad and Ramaswamy (2004) claim that the company and the consumer are increasingly creating value through personalized experiences that are unique to each individual (Khan et al., 2023; Rosmadi et al., 2025; Kukunuru et al., 2019). As customer familiarity with electronic banking keep increasing, as a result increase his expectation on the level of personalized services (Joghee et al., 2024; AlShawabkeh et al., 2021; Joghee et al., 2021). Hence, banks can use personalization as a

technique to differentiate the provided services from competitor (Hanson, 2000). With high service differentiation, the bank gain higher revenue than competitors (Kim and Mauborgne, 2005).

2.7. *Personalized services and satisfaction*

In line with the personalized impact on customer satisfaction and happiness, personalization has largely been assumed to affect satisfaction and loyalty (e.g. Peppers and Rogers, 1993; Rust et al., 2000). A research conducted by Dwayne 2006, to examine the influence of service personalization on satisfaction and loyalty, concluded that personalized services increases satisfaction as well have effects on customer loyalty (Vij et al., 2025; Kharabsheh et al., 2024; Kabiraj et al., 2009). Moreover, personalized relationship is more likely to endure and increases the emotional barriers to switching (Karthika et al., 2024; Naim et al., 2025; Murtaza et al., 2024). Moreover, if a bank can provide personalized services to their customers leading them to feel that the newly provided personalized services are useful and user-friendly, their level of satisfaction increases (Davis 1989; Bagozzi and Warshaw, 1989). Researches also revealed that customer satisfaction has a positive impact on customer loyalty (e.g. Leverin and Liljander, 2006; Anderson and Sullivan, 1993). As a result, it become difficult for its competitors to attract satisfied customers than unsatisfied customers (Methlie and Nysveen, 1999; Treacy et al., 2025; AlKatheeri et al., 2025; Shehab et al., 2023).

2.8. *Smart banking in UAE*

Online and mobile banking is gaining more popularity in the UAE. Recent data proposes that customers in UAE are using their daily bank services via mobile phone (Alzoubi et al., 2025; Ma’asor et al., 2023; Nuseir et al., 2021). It is a fact that the market in the UAE is more branch driven, however, a high usage of online and mobile banking is common. A survey conducted by RFI in 2015 of UAE retail customer behavior with bank, there is a high penetration of electronic banking usage within the UAE population, with 82 % of UAE customers using at least one electronic channel provided by the bank. Moreover, approximately 61 % use online banking through smartphone, while 57 % use a mobile app (Rizvi, 2015).

To improve smart banking quality with respect to

personalized services, the UAE Banks Federation has declared the Mobile Wallet initiative, which targets to provide many bank services as possible through smartphones or any other devices. Abdul Aziz Al Ghurair, chairman of the UAE Banks Federation, stated that, the Mobile Wallet supports a critical objective related to the Smart Government in order to reach all individual in the UAE (AlQassem et al., 2022; Lee et al., 2024; Khadragy et al., 2022). In line with digital personalized services provided by bank insinuations, The UAE will be the first country in the world to offer the whole banking sector supports such project, which will influence people's daily lives by enabling government services to be paid easily and by providing financial need in a secure environment (AlShawabkeh et al., 2018; Joghee et al., 2023; Sun et al., 2016). The project received very positive feedback and a wide range of merchants and retail outlets around the country (Sambidge, 2014).

On the other hand, an annual survey in 2017 conducted regarding the Bank Satisfaction index in UAE by Souqalmal.com, which aim to estimate customers' happiness with their bank and help highlight the factors affect customer satisfaction. The survey revealed that only 25 per cent of people would recommend their bank to other, which is 9 % less than previous year (Samer Hamadneh et al., 2023; Alshurideh et al., 2022; Tangri et al., 2023). Moreover, 66% of UAE respondents want better banking standards. In regards of customer satisfaction they are looking for a better banking experience across all channels such as the branches, ATM's, call centers, online banking and mobile banking. Remarkably, majority of the respondents 68 percent exposed that they prefer digital banking channels over the physical channels (Singh, 2017; AlHamadi et al., 2024; El Khatib et al., 2023; Nuseir et al., 2019).

3. METHODOLOGY

3.1. Procedure

The methodology of this research was conducted in a financial sector in Dubai by choosing three different banks that are either based in Dubai or have a branch. The three bank was chosen are Emirates National Bank of Dubai, National Bank of Abu Dhabi and Dubai Islamic Bank. The data used in collecting and presenting the analysis are part of qualitative and quantitative designs. To have a

strong report, different tools in analyzing the data were deployed. Interview and Survey were conducted for the purpose of combining the information. The secondary data – literature review was used as well from hbmsu – elibrary, in addition to other studies of the research to support it.

3.2. Sample

The study is focusing on reading the topic carefully, by understanding the concept of the variables in it, what could affect it, and how can it be improved. The data was collected mainly from two different side, the banks' employees and customers. The study sample was fairly small as 49 participants participated in the survey, and 4 in the interviews, which includes (Branch Manager, Head of Electronic Banking Service Department, Customer Service officer, Senior Manager). The study used both stratified sampling which is presenting the three different banks (stratums) equally, and the simple random sampling and targeting the respondents by ensuring they are from the three different banks in order to stay with the covered banks in the study.

3.3. Research Design

This research was designed to show the correlation between the variables mentioned in the research, in addition to answering the above stated research questions. The methodology of the data collection in this study was as per the below:

- Survey with (18) questions multiple choice was sent out to (49) customers from the three different banks. The survey was done through the google online survey.

- Four interviews were done with 3 managers, and one officer – a non-managerial level, to allow different perspectives in the research. The aim of these interviews was to know how the employees in the bank see their journey with their customers and whether they are capable to provide more services.

3.4. Data Collection

The data collection had been done through both primary as well as secondary sources in gathering the data. Primary data are sources that provide direct information from a certain person, which includes online survey and interviews.

By contrast, secondary sources are the information that were created by other researchers about the topic which includes articles or books, and as for this paper the secondary sources has been downloaded from HBMSU e-library.

As mentioned previously, this research data has been collected through quantitative and qualitative manners. As the three banks customers' conducted the survey, where we got 49 responses from three by approximately 17 for each. This will be discussed below in the data analysis (Yasir et al., 2024; AlKatheeri et al., 2025; Rana et al., 2025).

In addition to the above, the qualitative data included personal interviews, which were conducted with three managers, and one officer. Although the plan was to conduct the interviews with at least two representatives from each bank, but according to the very tight schedule they had we ended up with 4 representatives. The goal was to gain more information from the employees and give proper evaluation for the current statement and the predicted one.

4. DATA ANALYSIS

Microsoft Excel sheet and SPSS have been used in gathering the data to make it easier in finding out the relation between the variables, in addition to that, different tables were created to present the data in graphical figures.

4.1. Findings

The data analysis is showing the results of the questionnaire, and the interviews conducted. The 18 questions of the survey were designed for specific reasons, which include, measuring the level of satisfaction and happiness with the current service provided from the banks, and the desire of the customers in getting some personalized services for them. The researchers tried out to answer the two questions of the research objectives by examining whether providing such service would raise the level of happiness and whether banks could do it (Anifa et al., 2022; Al-Kassem & A. H., 2021; Kurdi et al., 2025). The main variable of the research is Happiness as Dependent variable, and smart services & personalizing the service are as independent variables. Although these are the

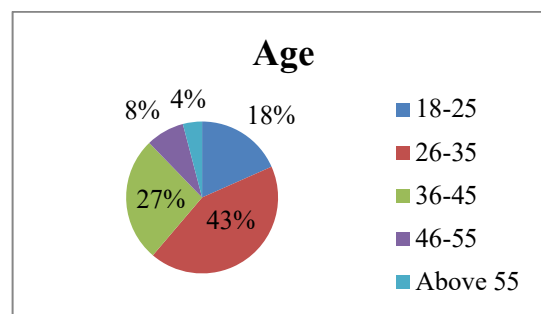


Figure 1: Age

main variables, but the researchers have studied the other independent variables in the survey that might affects the dependent one. Further explanation will be shown below.

Moreover, the interviews have been conducted with two levels where it was again analyzed in Microsoft Excel.

The objectives of the survey were to know whether the customers are happy with the smart services provided, if they would have personalized services, and if those services would increase their level of happiness. At the beginning of the survey, a definition of both smart services and personalized services to make it clear to the customers. The majority of the customers participated in the survey were female with a percentage of 55%. With a very close response in the second question, single respondents were about 51%. As for the third question about the education level, 55% of the respondents were graduated, 33% where with a master, and 12% were under graduate. However, none of the respondents held a PhD degree. Most of the customers were in the age of 26-35 with a percentage of 43%, after that 27% for the age of 36-45, 18% of them belonged to the age group 18 to 25 years which means 18% of the respondents were youth. 8% of the respondents belonged to the age group 46 to 55 years while only 4% were above 55 years of age.

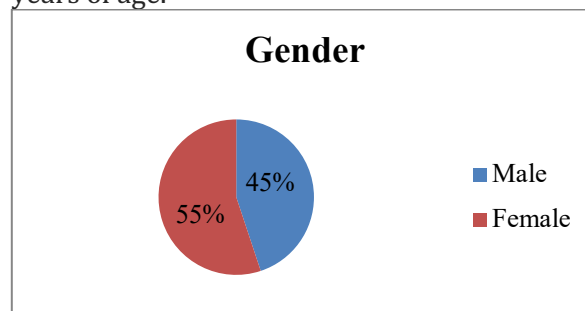


Figure 2: Gender

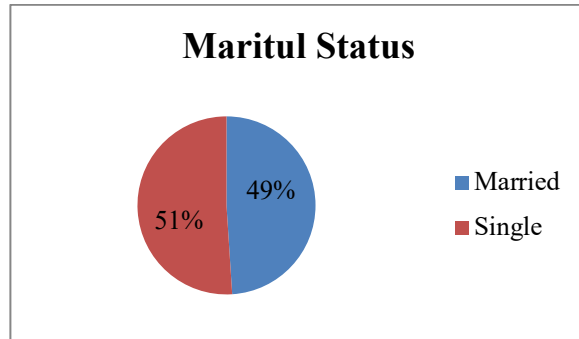


Figure 3: Marital Status

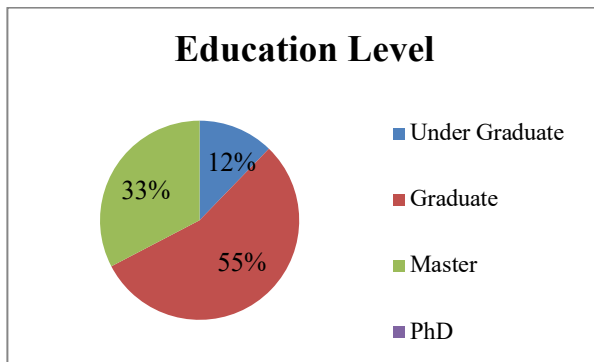


Figure 4: Educational Level

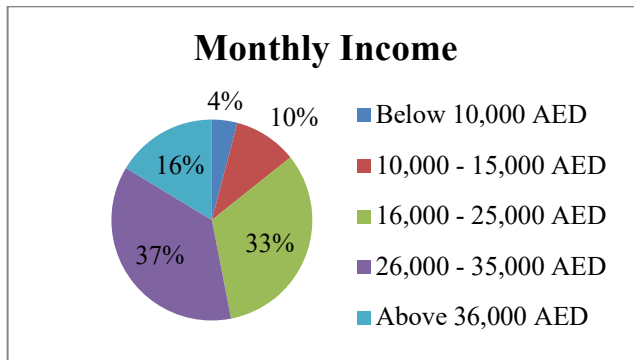


Figure 5: Monthly Income

The customers were also asked about their monthly income. Only 4% of the total respondents were earning below 10000 AED. 10% of the total respondents are earning 10000-15000 AED. 33% of the respondents were falling in the income group AED 16000 to AED 25000. Most of the respondents, i.e. 37% of the total respondents stated that they earn AED 26000- AED 35000 while, 16% of the total respondents were earning an income of above AED 36000.

Statistics		
N	Valid	49
Mean		2.1429
Median		2.0000
Mode		2.00
Std. Deviation		1.00000
Variance		1.000
Range		3.00

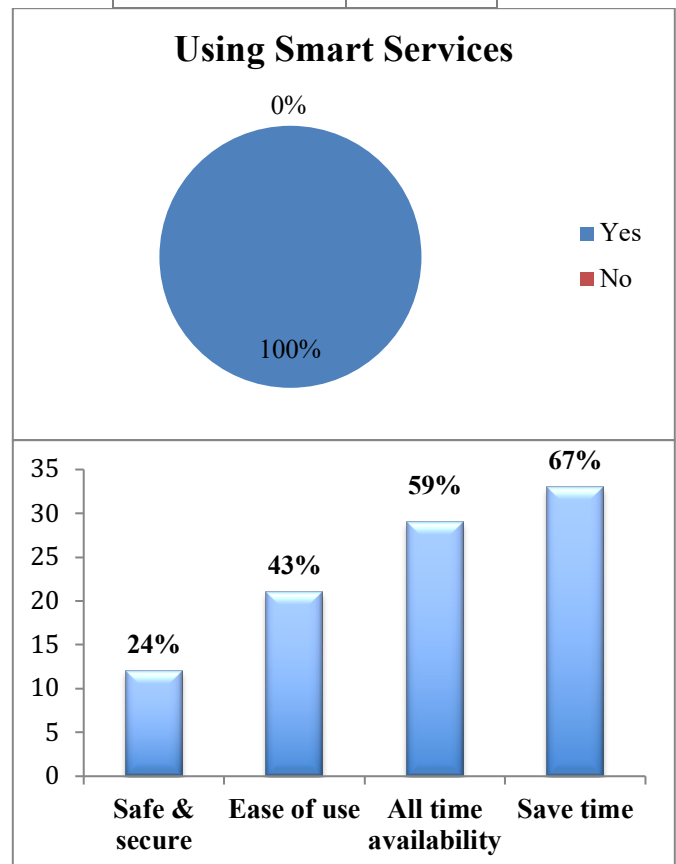


Figure 6: Smart service use percentage

To assure the effectiveness of the survey and the measurement mechanism, the respondents were asked about their usage of the mobile banking service when 100% of them confirmed that they are using it. The majority of the customers are using mobile banking services to save time, which shows the positive part about transforming to smart services.

The respondents were asked about the frequency

with which they were using mobile banking services, where the majority by 37% of the respondents stated that they were using the mobile banking services on weekly basis. As per the statistics table below, the value of mean (2.14) is greater than the median (2.00) showing that data is skewed to right. This shows that frequency of using mobile banking is higher.

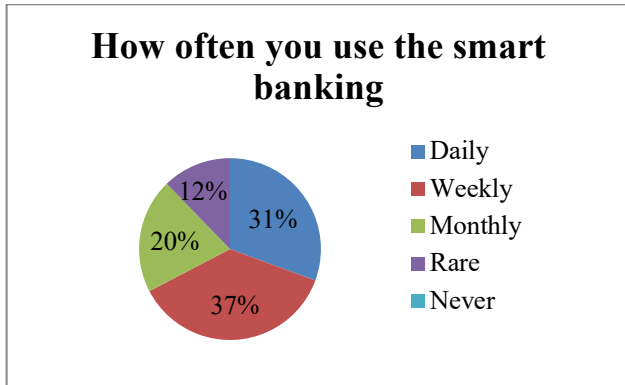


Figure 7: Usage of smart banking

Majority of the respondents, i.e. 65% stated that smart banking services are important while only 2% of the respondents stated that it does not make any difference. . As per the statistics table, the value of mean (1.51) is greater than the value of median (1.00) showing that result is skewed towards right. It means most of the customers think that smart banking services are important.

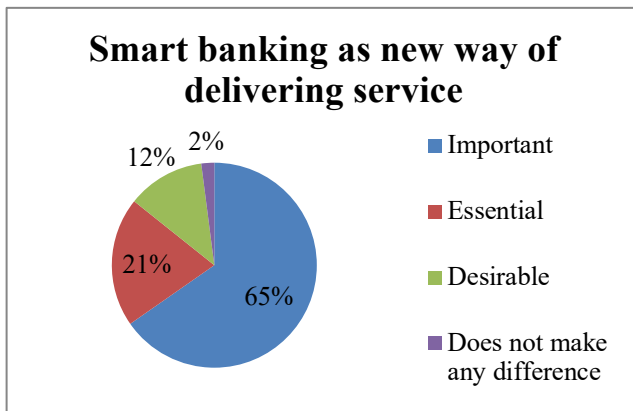


Figure 8: Smart banking strategy

Majority of the respondents of the survey stated that the quality of the current services is excellent while none of the respondents feel that the banking services are poor. As per the statistics table, the value of the mean (1.53) is greater than the value of median (1.00) showing that data is skewed towards right. It means the overall quality of the

bank smart services is above average.

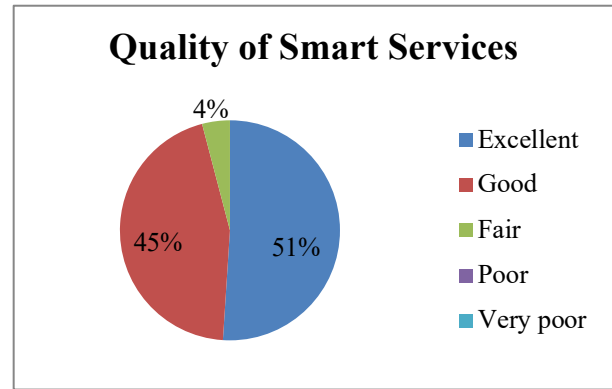


Figure 9: Quality of smart Services

Majority of the respondents, i.e. 94% of the total respondents were happy about the overall experience with the current bank. As per the below table, the value of mean (1.53) is greater than the value of median (1.00) showing that data is skewed towards right. It means the level of overall happiness of the customers with current bank experience is high.

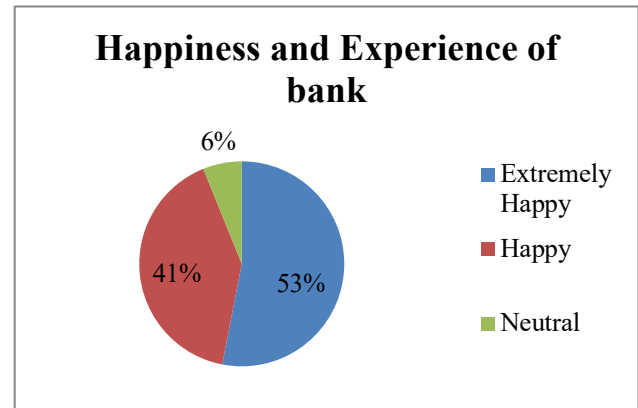
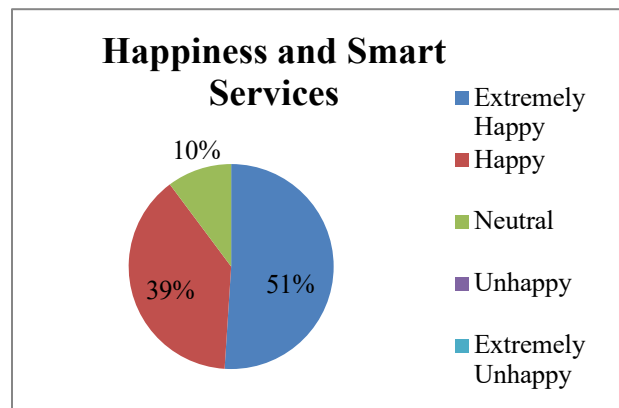


Figure 10: Banking Experience

90% of the total respondents were extremely happy with the smart banking services while none



of the respondents were unhappy with the smart services provided by the banks. As per the below table, the value of mean (1.59) is greater than the value of median (1.00) showing that data is skewed towards right. It means the level of happiness of the people with their bank's smart services is high.

Figure 11: Smart Service Use

Majority of the respondents (i.e. 94%) agreed with the statement while none of the respondents disagreed with the statement. As per the below table, the value of mean (1.67) is lower than the value of median (2.00) showing that data is skewed towards left. However, value of mode (2.00) and range (2.00) shows that none of the respondents has selected disagree and strongly disagree as option. It means that people are satisfied with the fact that the information and data about various products and services are updated regularly in the smart services banking.

Statistics		
N	Valid	49
Mean		1.6735
Median		2.0000
Mode		2.00
Std. Deviation		.59118
Variance		.349
Range		2.00

Updated data in the smart service banking

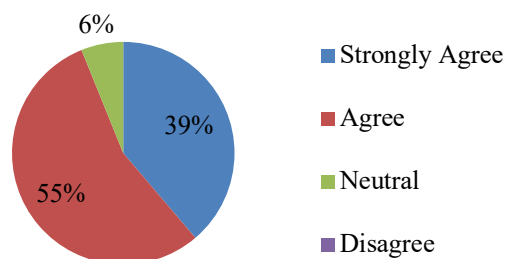


Figure 12: Updated Data

96% of the respondents which form the majority agreed with the statement while none of the respondents disagreed with the same. As per the below table, the value of mean (1.49) is greater than the value of median (1.00) showing that data is skewed towards right. It means people are

satisfied with the fact that their bank provide support if they have any problem about smart banking service.

• Gender and Personalization

Table 1: Gender results

	Strongly Agree	Agree	Neutral
Male	59%	36%	5%
Female	67%	22%	11%

From the above table 1, it can be seen that personalization is top expectation of 95% of total male respondents and 89% of total female respondents. This shows that more males prefer personalization in comparison to females.

Table 2: Gender and Happiness from Personalization

	Yes	No
Male	91%	9%
Female	85%	15%

From the above table 2, it can be seen that 91% of total male respondents and 85% of total female respondents would be happy if their bank provides personalized smart banking service. This shows male will be happier than females if bank offers personalized smart banking service.

Table 3: Gender and Smart Banking Services

	Daily	Weekly	Monthly	Rare
Male	32%	32%	22%	14%
Female	30%	41%	19%	10%

From the above table, it can be seen that more male respondents are using personalization services than female respondents on daily and monthly basis. Thus, it can be said that males use smart banking services more frequently in comparison to females.

Table 4: Age and Personalization

	Strongly Agree	Agree	Neutral
18-25	56%	33%	11%
26-35	71%	29%	
36-45	85%	15%	
46-55		50%	50%
Above 55		50%	50%

From the above table 4, it can be seen that personalization is top expectation of 88% of total respondents belonging to age group of 18-25 years, 100% of total respondents belonging to the age group 26-35 years, 100% of total respondents belonging to the age group 36-45 years, and 50% of

total respondents above 46 years of age. This shows that older people are less likely to prefer personalization of banking services in comparison to younger people.

Table 5: Age and Happiness from Personalization

	Yes	No
18-25	89%	11%
26-35	86%	14%
36-45	100%	
46-55	75%	25%
Above 55	50%	50%

From the above table, it can be seen that if bank provides personalized smart banking service then it will make 89% of total respondents belonging to age group of 18-25 years, 86% of total respondents belonging to the age group 26-35 years, 100% of total respondents belonging to the age group 36-45 years, 75% of total respondents in the age group of 46-55, and 50% of total respondents above 55 years of age happy. This shows that offering personalized smart banking service is less likely to make old age people happy.

Table 7: Age and Smart Banking Services

	Daily	Weekly	Monthly	Rare
18-25	44%	22%	33%	
26-35	29%	52%	19%	
36-45	38%	38%	15%	8%
46-55			25%	75%
Above 55				100%

From the above table 7, it can be seen that young people makes use of smart banking services more frequently in comparison to old age people.

Table 8: Educational Status and Personalization

	Strongly Agree	Agree	Neutral
Under Graduate	50%	33%	17%
Graduate	63%	26%	11%
Master	69%	31%	

From the above table 8, it can be seen that people with higher education wants bank to provide personalized service.

Table 9: Educational Status and Happiness from Personalization

	Yes	No
Under Graduate	83%	17%

Graduate	81%	19%
Master	100%	

From the above table 9, it can be seen that people with higher level of education are more likely to be happy if bank offers personalized smart banking service.

Table 10: Educational Status and Smart Banking Services

	Daily	Weekly	Monthly	Rare
Under Graduate	33%	33%	17%	17%
Graduate	26%	33%	33%	19%
Master	38%	44%	19%	

From the above table 10, it can be seen that people with higher education level use smart banking services more frequently in comparison to people with lower education level.

Table 11: Income and Personalization

	Strongly Agree	Agree	Neutral
Below 10,000 AED		100%	
10,000 - 15,000 AED	60%	20%	20%
16,000 - 25,000 AED	69%	19%	13%
26,000 - 35,000 AED	67%	28%	6%
Above 36,000 AED	63%	38%	

From the above table 11, it can be seen that there is no specific relationship between preference for personalization and income of people.

Table 12: Income and Happiness from Personalization

	Yes	No
Below 10,000 AED	100%	
10,000 - 15,000 AED	60%	40%
16,000 - 25,000 AED	75%	25%
26,000 - 35,000 AED	100%	
Above 36,000 AED	100%	

From the above table 12, it can be seen that there is no specific relationship between happiness from personalization and income of people. This means happiness of people with respect to personalization of services is not dependent on

income.

Table 13: Income and Smart Banking Services

	Daily	Weekly	Monthly	Rare
Below 10,000 AED	50%	50%		
10,000 - 15,000 AED		40%	20%	40%
16,000 - 25,000 AED	25%	31%	31%	13%
26,000 - 35,000 AED	33%	39%	17%	11%
Above 36,000 AED	50%	38%	13%	

From the above table 13, it can be seen that income is not a determinant of using smart banking services.

4.2. Hypotheses Testing

Correlation analysis is used as a technique in investigating the relationship between the two quantitative, continuous variables and to measure the strengths of the association between the two variables. This study prepared a total of two hypotheses to measure the level of relationship of the two independent variables with one dependent variable. Here the level of relationship is measured between the smart services and happiness and between the personalization and happiness.

A total of 8 from 18 general questions have been prepared to measure the correlation coefficient between the variables. Questions from 6 to 8 measure the customer attitude and behavior toward the usage of smart services, while questions 10 to 12 measure the smart services provided by the banks with customers' satisfaction and happiness. Question 16 and 17 measures the personalized service of bank and the level of customers' happiness.

4.3. Below, is more explanation about the variables that have been mentioned above:

1- Questions 6-8:

6. Are you using smart banking? – Here we do assess the variable using of the smart banking, since if any customer wasn't happy with the usage will reply by No.

7. How often you use mobile banking services? – At this question we are measuring the frequency of

the usage as well as customer engagement, which indicate how many dimensions of customer usage and how customer is satisfied and engaged with the services provided.

8. What are the reasons you use smart banking? – This is a continuous question for the above by showing the advantages of the usage, and how easy to use it which by default liked to the raise of customer satisfaction.

2- Questions 10-12, 15:

10. What is the level of your overall happiness with your current bank experience? – Here is a direct question about the service provided by the bank which can directly link to the customer overall happiness. The variable extremely happy and happy can show how much customer are currently happy with the services.

11. How would you rate the overall quality of the bank smart services? – At this point a simple question related to the quality of services provided by the bank, which indicate if quality is excellent or even good, customer will remain as he is satisfied.

12. To what extent are you happy with your bank smart services? – At this point, you are asking a direct question to measure the level of happiness of the smart services. The variable extremely happy and happy measure the level of happiness while unhappy and extremely unhappy determine unhappy customer (Alshurideh et al., 2024; Alblooshi et al., 2025; AlQassem et al., 2025).

15. Would you switch your account to another bank that might provide better smart services? – As this is a question about loyalty, it is linked with the satisfaction since being loyal to your bank means that you are satisfied with the provided services.

3- Questions 16 & 17

16. Having personalized smart banking service is from my top expectations. – Here we are measuring whether the personalization is important or no before introducing the service, a small brief on what personalization was provided to the customers. Here also the question measure if the personalization has emotional effect for the customer (Maydybura et al., 2024; AlQassem & A. H., 2024; Khan et al., 2024).

17. If your bank provides you personalized smart banking services, would this make you happier? – This is a direct question since we are proposing a

new services and measuring wither having personalized service would make a different with the customer wellbeing and attitude toward the bank (AlShawabkeh et al., 2021; El Khatib et al., 2023; Pande et al., 2024).

Correlation between the smart services of banks and happiness of the customers, H1 asserted that the smart services of the banks have a positive relationship with the happiness of the customers.

Table 14: Correlation: Smart services of the banks and happiness of the customers
Correlations

		Happiness	Smart Services
Happiness	Pearson Correlation	1	.847**
	Sig. (2-tailed)		.000
	N	49	49
Smart Services	Pearson Correlation	.847**	1
	Sig. (2-tailed)	.000	
	N	49	49

**. Correlation is significant at the 0.01 level (2-tailed).

The above table 14 shows the relationship between the two variables named the smart services of the banks and happiness of the customers. The analysis demonstrated that there is a positive correlation between the two variables named the smart services of the banks and happiness of the customers ($r = 0.85$, $p < 0.01$). The value of the correlation coefficient is close to 1, it shows a strong linear relationship between the smart services of the banks and happiness of the customers. The p-value suggest that the relationship is statistically significant. Hence, null hypothesis is rejected and the alternate hypothesis is accepted. It means the smart services of the banks such as effective delivery of the service and information upgradation about the products enhance the happiness level of the customers in terms of ease of using the services. This result is in alignment with the study was conducted by Quyet, Vinh, and Chang (2015) to evaluate the service quality and its effects on the customer satisfaction. The findings of the study revealed that the banks which are less developed in terms of smart services are less likely to attract the customers. It means

facilities and equipment used in the smart services of banks influences the satisfaction level of the customers and their overall happiness (Quyet, Vinh, & Chang, 2015; AlShawabkeh et al., 2014; Kanwal et al., 2023; Nazeer et al., 2025).

Correlation between the personalized services of banks and happiness of the customers, H2 asserted that the personalized services of the banks have a positive relationship with the happiness of the customers

Table 15: Correlation: personalized services of banks and happiness of the customers
Correlations

		Happiness	Personalization
Happiness	Pearson Correlation	1	.753**
	Sig. (2-tailed)		.000
	N	49	49
Personalization	Pearson Correlation	.753**	1
	Sig. (2-tailed)	.000	
	N	49	49

**. Correlation is significant at the 0.01 level (2-tailed).

The above table 15 shows the relationship between the two variables named the personalized services of the banks and happiness of the customers. The analysis demonstrated that there is a positive correlation between the two variables named the personalized services of the banks and happiness of the customers ($r = 0.75$, $p < 0.01$). The value of the correlation coefficient close to 1 it shows a strong linear relationship between the personalized services of the banks and happiness of the customers. Whereas the p-value suggest that the relationship is statistically significant. It means the personalized services of banks such as financial advice, services of ATMs, leverage customer data, augment in-branch experience, multi-channel customer experience, etc (Alshurideh et al., 2025; Khatib et al., 2024; AlKurdi et al., 2025). enhance the happiness level of the customers in terms of ease of using the services. This finding is contradicting with the study conducted by Shen

and Ball (2009). According to Shen and Ball (2009), personalization is not good enhancement to services that make the customers satisfied and happy. The effects of the personalization have contingencies and this may vary across the categories.

4.4. Interviews:

The researchers conducted four interviews, which included 3 managers and 1 officer, throughout the interviews all participants tried to give accurate information with the experience they have. As mentioned above, the data was collected through an Excel sheet and SPSS. Below are the findings listed according to each question.

4.4.1. Quality services and satisfaction

Quality services and satisfaction are two of the most important aspects of banking industry. The interview analysis shows that both Quality services and satisfaction are important constructs in all the three banks. The focus of all the three banks- National Bank of Abu Dhabi (NBAD), Dubai Islamic bank (DIB) and Emirates NBD Bank is on improving the Quality of services. For example, the respondent from DIB highlighted that an initiative called the "Customer First" was launched by the bank for improving the products and services offered along with improving the customer satisfaction. Further, the smart services of DIB are also helping the bank in improving the customer satisfaction. Similarly, the respondent from NBAD also indicated that their quality service is highly effective and they focus on providing the important information to their customer. Lastly, ENBD also aligns its service with the needs of customers. In essence it can be said that the quality services of all the three banks is effective and it is also positively affecting the level of customer satisfaction (Alzoubi et al., 2024; Razmak et al., 2018; El Khatib et al., 2022).

4.4.2. Smart Services

Smart services are the important part of all the three banks. The use of Smart Service indicates that the banks are focusing on optimum use of technology for improving their overall customer service, customer satisfaction and customer happiness. The use of technology in the banking operations helps in enhancing the overall customer experience. The government of UAE is also determined towards using the technological

innovation in the banking sector for improving the overall efficiency and effectiveness of the banking industry (AlNajdawi et al., 2024; AlShawabkeh et al., 2013; Yas et al., 2024).

4.4.3. Challenges in adopting smart services

Smart services are one of the important parts of all the three banks - National Bank of Abu Dhabi (NBAD), Dubai Islamic bank (DIB) and Emirates NBD Bank. The three of the banks faced challenges in adopting the smart services. Introducing the smart services is one of the big transformations in the banks that required a number of aspects to be changed (Al-Kassem et al., 2022; Kharbat et al., 2021; Shwedehe et al., 2024). The challenges were associated with the strategic and operational issues. For example, the respondent from NBAD indicated that it was challenging for them to find the potential people for leading the smart services. Resistance of the employees from change was another challenge highlighted in the interview analysis (Joghee et al., 2020; AlQassem, 2022; Karthika et al., 2024). Further, the challenges associated with the operational issues indicate that customers had difficulty in adopting the new banking methods. Another challenge faced by DIB was also an operational issue, as the mobile applications were not working effectively but eventually, the applications were upgraded for better performance (Som et al., 2023; El Khatib et al., 2023; Shwedehe & F., 2022). In essence it can be said that any strategic or technological change in the organization is accompanied by some challenges. But to keep the best, the three banks had trainings for the employees, and instructions through the applications and websites for the customers.

4.4.4. Smart services and level of happiness

The interviews conducted with respondents of the three banks indicate that smart services and level of happiness are positively correlated. The educated segment has been highly benefitted by the introduction of smart services. The response from NBAD indicates that Smart Services have especially helped in making the lives of people comfortable by simplifying the complex banking processes (Alzoubi et al., 2024; Shwedehe, 2022; Ahmed et al., 2024). The response from DIB also indicates that Smart Services have helped in enhancing the customer experience. In essence it can be said that the Smart Services can significantly help in improving the level of customer happiness

as mentioned in the three banks. The educated segment of the economy will be the one that will receive the maximum benefits of technological innovation such as the Smart services.

4.4.5. *Personalization and happiness of customers*

The interview has also focused on the personalization in all the three banks. Personalization helps in meeting the specific needs of the customers and eventually improving the level of customer's happiness (Alshurideh et al., 2022; Joghee et al., 2018; Kumar et al., 2024). The responses of the respondents from NBAD indicate that personalization can be done in offering the information, products and services. Further, it has also been highlighted in the interviews that personalization offers other benefits such as reduction in the flow of walk-in customers and an increased focus on the sales. The banks have incorporated personalization in different forms such as DIB focuses on the personal financial needs of the customers. In addition, personalization also helps DIB for the future product development. There is however, a risk of losing customers as with the personalization the direct communication of the bank with customers reduces. ENBD is especially concerned with this reduction but, DIB and NBAD consider personalization of the services important for the happiness of the customers. It can be said that personalization and happiness of the customers are correlated positively. Personalization as a new service can be used by the banks to improve their customer happiness.

5. CONCLUSIONS

This study seeks to provide a number of major contributions to the conspectus of the impact of smart service quality on of e-banking customer's satisfaction and happiness. An important contributions of this research also is to find out the role of personalization on the outcomes of customer behavior in order to be more responsive to user requirement (AlAmiri et al., 2024; Hanaysha et al., 2021; AlQassem et al., 2024). The result of the study suggests that a high level of e-service quality has a direct effect on customer satisfaction and loyalty. Furthermore, with regards of the analysis that customers have high expectations and demands related to the smart service provided by their bank. Likewise, customer consider delivering personalized and differentiated experience from their bank which

consequently increase the level of their happiness. As a result, e-banking has to deliver more value to the customer and most important, provide quality e-services in order to influence customer's attitude. The study also helps e-banking providers some recommendations related to this concepts and it suggest a dimensions valuable leading indicators related to customer happiness (AlShawabkeh et al., 2023; Shwedehe et al., 2024; El Khatib et al., 2024). It suggest that a future research is required to extend the studies related to this concept in the Middle East as the E-service quality in bank has attracted a lot of attention nowadays.

6. LIMITATIONS

As any other research, the researcher would find some challenges in terms of time, people, organization or further studies. Below are some limitations that has been addressed by the researcher:

- Shortage in terms of time, where it was very tight and limited while collecting the data, scheduling and meeting the interviewees, and later on analyzing the data.
- The secondary sources were somehow limited, as the subject is new in the field in terms of personalizing smart services.
- Consistency of the answers in the survey, as some of the customers tend to be busy and have limited time.
- Meeting the employees in the bank was a difficult part in terms of their busy schedule and their dedicated time with the customer since all of them are from the customer service.
- Selecting the right people in the survey was also difficult since we were looking for customers from the three banks, and we have tried to do that through the bank itself but that was not allowed, which took us more time in searching for the right customers.
- Limited research conducted related to e-services and personalized services linked to the happiness indicator.

7. RECOMMENDATIONS

According to the above research study, and after studying the data analysis, recommendations has been considered for further study:

- To approach an external companies and compare it to the ones in the country to see the difference.
- The biggest issue in banks at present is the confidentiality issue. The banks must strive

to keep the information provided to them by the customer confidential. This can be attained through installing a mechanism wherein selected people are able to view the information provided by the customer and not the entire staff.

- Banks need to approach the customers through different channels, which include: suggestions forms, surveys, focus groups, and find out what kind of services they want, study it and implement what is applicable to raise the level of happiness.
- Focusing more on quality strategy is essential for the any e-service providers in order to drive the customer attitude toward e-banking services and increase the customer satisfaction
- A higher level of personalization is required to increase customer happiness as a result banks should have more insights into the specific unique requirements of customers.

REFERENCES

- Al-Hawari, M. and Ward, T. (2006), "The effect of automated service quality on Australian banks' financial performance and the mediating role of customer satisfaction", *Marketing Intelligence and Planning*, Vol. 24 No. 2, pp. 127-47.
- Caruana, A. (2002), "Service loyalty: the effect of service quality and the mediating role of customer satisfaction", *European Journal of Marketing*, Vol. 36 Nos 7/8, pp. 811-28.
- Chang, H.H., Wang, Y. and Yanga, W. (2009), "The impact of e-service quality, customer satisfaction and loyalty on e-marketing: moderating effect of perceived value", *Total Quality Management*, Vol. 20 No. 4, pp. 423-443.
- Chu, P., Lee, G. and Chao, C.H. (2012), "Service quality, customer satisfaction, customer trust, and loyalty in an e-banking context", *Social Behavior and Personality*, Vol. 40 No. 8, pp. 1271-1284.
- Coner, A. (2003), "Personalization and customization in financial portals", *Journal of American Academy of Business*, Vol. 2 No. 2, pp. 498-504.
- Cronin, J.J. Jr and Taylor, S.A. (1992), "Measuring service quality: a re-examination and extension", *Journal of Marketing*, Vol. 56, pp. 55-68.
- Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989), "User acceptance of computer technology: a comparison of two theoretical models", *Management Science*, Vol. 35 No. 8, pp. 982-1003.
- Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319-340.
- Dib.ae. (n.d.). Smart Bank - Ways to Bank | DUBAI ISLAMIC BANK. [online] Available at: <http://www.dib.ae/ways-to-bank/smart-bank> [Accessed 16 Jul. 2017].
- Dib.ae. (n.d.). Vision and Mission - About DIB | DUBAI ISLAMIC BANK. [online] Available at: <http://www.dib.ae/about-dib/vision-and-mission> [Accessed 14 Jul. 2017].
- Dwayne Ball, Pedro S. Coelho, Manuel J. Vilares, (2006) "Service personalization and loyalty", *Journal of Services Marketing*, Vol. 20 Issue: 6, pp.391-403.
- El-Kasheir, D., Ashour, A.S. and Yacout, O.M. (2009), "Factors affecting continued usage of Internet banking among Egyptian customers", *Communications of the IBIMA*, Vol. 9 No. 29, pp. 252-263.
- Gronroos, C. (1982), *Strategic Management and Marketing in Service Sector*, Marketing Science Institute, Cambridge, MA.
- Hackett, S., B. Parmanto and X. Zeng. (2004). *Accessibility of Internet Websites through Time*. Association for Computing Machinery, Atlanta, USA.
- Hanson, W. (2000), *Principals of Internet Marketing*, South Western, Cincinnati, OH.
- Joseph, M., McClure, C. and Joseph, B. (1999), "Service quality in the banking sector: the impact of technology n service delivery", *The International Journal of Bank Marketing*, Vol. 17 No. 4, pp. 182-91.
- Jun, M., Peterson, R., Zsidisin, G. and Daily, B. (1999), "Service quality perceptions in the banking industry: major dimensions", *Journal of Business Strategies*, Vol. 16 No. 2, pp. 170-88.
- Keaveney, S. (1995), "Customer switching behaviour in service industries: an exploratory study", *Journal of Marketing*, Vol. 59 No. 2, pp. 71-82.
- Kim, W.C., & Mauborgne, R. (2005). *Blue Ocean Strategy*. Boston: Harvard Business School Press.
- Kumbhar, V.M. (2011), "Factors affecting the customer satisfaction in e-banking: some evidences from Indian banks", *Management Research and Practice*, Vol. 3 No. 4.
- Leverin, A., & Liljander, V. (2006). Does relationship marketing improve customer relationship satisfaction and loyalty? *The International Journal of Bank Marketing*, 24(4). 232-251.
- Ma, Z. and Zhao, J. (2012), "Evidence on e-banking customer satisfaction in the China commercial bank sector", *Journal of Software*, Vol. 7 No. 4, pp. 927-933.
- Magemhe S, Shemi AP (2002) Challenges and opportunities for adapting electronic commerce in developing country: The Botswana perspective. IAABD Conference proceedings, Port Elizabeth.
- Marous, J. (2016). Personalization in Banking: From Novelty to Necessity. [online] *The Financial Brand*. Available at: <https://thefinancialbrand.com/58063/personalization-in-banking-digital-research-study/> [Accessed 11 Jul. 2017].
- Methlie, L.B., & Nysveen, H. (1999). Loyalty of on-line bank customers. *Journal of Information Technology*, 14.375-386.
- Nbad.com. (n.d.). About FAB. [online] Available at: <https://www.nbad.com/en-ae/about-nbad/overview.html> [Accessed 7 Jul. 2017].

- Ping, C.T.Y., Suki, N.M. and Suki, N.M. (2012), "Service quality dimension effects on customer satisfaction towards e-banking", *Interdisciplinary Journal of Contemporary Research Business*, Vol. 4 No. 2, pp. 741-751.
- Parasuraman A., Zeithaml V.A., & Berry L.L. (1985): A conceptual model of service quality and its implications for future research, *Journal of marketing*, 49, pp. 41-50.
- Parasuraman, A. (1998). Customer service in business-to-business markets an agenda for research. *Journal of Business and Industrial Marketing*, 13(4/5), 309-321.
- Parasuraman, A., Zeithaml, V., Malhorta, A., 2005. E-S-QUAL: a multiple-item scale for assessing electronic service quality. *Journal of Retailing* 64 (1), 12-40.
- Peppers, D. and Rogers, M. (1993), *The One to One Future: Building Relationships One Customer at a Time*, Currency/ Doubleday, New York, NY.
- Prahalad, C. K. & Ramaswamy, V. 2004a. *The future of competition: co-creating unique value with customers*, Harvard Business School Press, Boston, Massachusetts.
- Quyet, T. V., Vinh, N. Q., & Chang, T. (2015). Service Quality and Its Effects on Customer Satisfaction with Deposit Services in the Banking Industry. *Advanced Science and Technology Letters*, 102, 18-23.
- Ribbink, D., Riel, A., Liljander, V. and Streukens, S. (2004), "Comfort your online customer: quality, trust, and loyalty on the internet", *Managing Service Quality*, Vol. 14 No. 6, pp. 446-56.
- Rizvi M., (2015), "Mobile banking on the rise in UAE." *Khaleej Times Web*. 15 July 2017. Available: <http://www.khaleejtimes.com/business/banking-finance/money-goes-mobile-in-uae> (Accessed: 14 July 2017).
- Rust, R.T., Zeithaml, V.A. and Lemon, K.N. (2000), *Driving Customer Equity: How Customer Lifetime Value Is Reshaping Corporate Strategy*, Free Press, New York, NY.
- Tanveer, A., Jarral, S., Al-Zubaidi, A., Saleem, S., & Neyara Radwan. (2024). The varying viscosity impact in an inclined peristaltic channel with diffusion-thermo and thermo-diffusion. *ZAMM - Journal of Applied Mathematics and Mechanics*, 104(5). <https://doi.org/10.1002/zamm.202300794>
- Joghee, S., Alzoubi, H. & Dubey, A. (2020) "Decisions Effectiveness of FDI Investment Biases at Real Estate Industry: Empirical Evidence from Dubai Smart City Projects", *International Journal of Scientific & Technology Research*, 9(3):3499-3503
- Alzoubi, A. A., Alzarooni, M. Y., & Alzoubi, H. M. (2024). Privacy Violation and Information Misuse in the Internet of Medical Things (IoMT). In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 323-332). Cham: Springer Nature Switzerland.
- Alzoubi, H. M., Alshurideh, M., El Khatib, M., Shamot, M. D., Joghee, S., Nair, K., & Al-Gharaibeh, S. M. (2024). Optimizing supply chain excellence: Unravelling the synergies between IT proficiencies, smart supply chain practices, and organizational culture. *Uncertain Supply Chain Management*, 12(3), 1855-1866.
- Kurdi, B. Al, Alzoubi, H. M., Tan, C. L., El Khatib, M., Yanamandra, R., Ozturk, I., & Shwede, F. (2025). Internet of Things-Driven Information Sharing: A Strategic Approach to Mitigating Supply Chain Risks. *International Review of Management and Marketing*, 15(3), 325-332. <https://doi.org/https://doi.org/10.32479/irmm.19474>
- Al Amiri, N., Ahmed, G., Al Qawasmeh, K. and Afana, H. (2024) 'Effect of crises on the healthcare marketing mix and customer satisfaction: evidence from the UAE during the COVID-19 pandemic', *Middle East Journal of Management*, 11(5) 471-495.
- Al-Nakeeb, A., El Khatib, M., Zitar, R. A., Alhosani, A., & Alhosani, I. (2023). Project Manager's role in manage Project knowledge process: An approach to enhance Project quality. *International Journal for Computers & Their Applications*, 30(4).
- Alzoubi, A. A., Nikoo, S. A., & Alzoubi, H. M. (2024). Investigating Contemporary Ethical Issues of Using Blockchain in E-Supply Chain in Internet of Medical Things (IoMT). In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 437-452). Cham: Springer Nature Switzerland.
- Khadragy, S., Elshaer, M., Mouzaek, T., Shammass, D., Shwede, F., Aburayya, A., ... & Aljassmi, S. (2022). Predicting diabetes in United Arab Emirates healthcare: artificial intelligence and data mining case study. *South East. Eur. J. Public Heal*, 5.
- Al Najdawi, M. H., Shwede, F., Mokhtar Abdelmoghies, M., Kitana, A., & Ali, A. (2024). Applying artificial intelligence in predicting educational excellence in higher education institutions: A case study in Jordanian universities. *Edelweiss Applied Science and Technology*, 8(6), 7273-7289. <https://doi.org/10.55214/25768484.v8i6.3579>
- Alkatheeri, S., Hilmi, M. F., Ahmed, G., & Abudaqa, A. (2025). Examining the nexus between strategic outsourcing and operational performance: A case of the health care industry of the UAE under the resource-based economy. *Journal of Mines, Metals and Fuels*, 73(7), 1-13.
- Kumar, P., Neyara Radwan, V., Vij, M., & Vij, A. (2024). The role of robotics in enhancing service quality, efficiency, and customer satisfaction in the hospitality industry. *IEEE Xplore*. <https://doi.org/10.1109/ICCR61006.2024.10532969>
- Vij, M., Vij, A., Kumar, P., Masoud, E. Y., Al Kurdi, B., & Alzoubi, H. M. (2025). Artificial Intelligence in Digital Marketing Strategies in the UAE: The Mediating Role of Predictive Analytics in Enhancing Customer Conversion. *International Review of Management and Marketing*, 15(4), 380.
- Kharbat, F., Razmak, J., AlShawabkeh, A., (2017), "Proposing UAE-patient portal: A new direction in the health services", 2017 *Medical Technologies National*

- Conference, TIPTEKNO 2017.
- Alzoubi, A. A., Mubarak, S. O., Sultan, M. K., Ali, A. O., & Alzoubi, H. M. (2024). Investigating the Impact of Ethical Concerns on the Security and Privacy of Medical Devices in the UAE. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 465-479). Cham: Springer Nature Switzerland.
- AlShawabkeh, A., Kharbat, F., Razmak, J. (2023), "Knowledge Management Role in Enhancing Customer Relationship Management in Hotels Industry in the UK", 2022 9th International Conference on Social Networks Analysis, Management and Security, SNAMS 2022.
- Al-Shawabkeh, A., Kanungo, R., (2017), "Credit risk estimate using internal explicit knowledge ", *Investment Management and Financial Innovation*, 14(1), pp. 55-66.
- Joghee, S., Dubey, A., & Sonia. S (2021) "Investigation of Green Marketing Practices of UAE Hypermarkets", *International Journal of Enterprise Network Management*.
<https://doi.org/10.1504/IJENM.2021.10043386>
- Joghee, S., & Dubey, A. (2018) 'Performance Measurement in Entrepreneurial Marketing' *The Journal of Human Resource and Adult Learning*, 14 (1) 78-84.
- El Khatib, M., AlQurashi, M., AlHashemi, S., AlKetbi, M., & AlHarmoodi, S. (2023, March). Digital Platforms' Influence on Project Management. In *2023 International Conference on Business Analytics for Technology and Security (ICBATS)* (pp. 1-7). IEEE.
- El Khatib, M., Al-Nakeeb, A., Alketbi, A., Al Hashemi, A., Mustafawi, F., Almansoori, R., ... & Alshurideh, M. (2023). Impact of Remote Work on Project Risks Management: Focus on Unknown Risks. In *The Effect of Information Technology on Business and Marketing Intelligence Systems* (pp. 747-766). Cham: Springer International Publishing.
- Joghee, S., Al Kurdi, B., Alshurideh, M., Alzoubi, H.M., Anu V., Murali M., & Samer H., (2021). Expats impulse buying behaviour in UAE: A customer perspective. *Journal of Management Information and Decision Sciences*, 24(S1), 1-24.
- Alzoubi, H. M., Alshurideh, M. T., El Khatib, M., Shamout, M. D., Yanamandra, R., Nair, K., & Al-Gharaibeh, S. M. (2024). Exploring the nexus between innovation orientation, green supply chain management, and organizational performance in e-retailing industry. *Uncertain Supply Chain Management*, 12(3), 1923-1934.
- Shwedehe, F. (2021). The Impact Of Smart City Policy Timeliness And Technology Readiness On Smart City Performance In Dubai: The Moderating Effect Of Financial Availability.
- Al-Qassem, A. H. (2024). Performance: The mediating role of job satisfaction and pro-environmental behavior. *Taylor & Francis Cogent Business & Management*, 11(1).
<https://doi.org/10.1080/23311975.2024.2328316>
- Yasir, M., Saleem, S., Khan, M., & Neyara Radwan (2024). Dynamics of magnetized viscous dissipative material of hybrid nanofluid with irregular thermal generation/absorption. *Case Studies in Thermal Engineering*, 58.
<https://doi.org/10.1016/j.csite.2024.104359>
- Khatib, M. M. E., & Ahmed, G. (2024). Achieving excellence in business practices through artificial intelligence: a case study of the Dubai public sector. *International Journal of Public Sector Performance Management*, 14(2), 262-277.
- El Khatib, M., Ankit, A., Al Ameer, I., Al Zaabi, H., Al Marqab, R., Alzoubi, H. M., & Alshurideh, M. (2023). The Role and Impact of Big Data in Organizational Risk Management. In *The Effect of Information Technology on Business and Marketing Intelligence Systems* (pp. 2139-2153). Cham: Springer International Publishing.
- Al-Qassem, A. H. (2022). Efficiency and effectiveness of human resource development in the tourism industry of the United Arab Emirates. *Journal of Positive School Psychology*, 6(2), 1811-1823.
- Shwedehe, F., Nour, M. A., & Akour, I. (2024). Optimizing augmented reality adoption in higher education: A comprehensive analysis of factors impacting data management efficiency. *Journal of Infrastructure, Policy and Development*, 8(9), 6232.
<https://doi.org/https://doi.org/10.24294/jipd.v8i9.6232>
- Shwedehe, F. (2024a). Designing Delight: Exploring the Nexus of Interactive Design, User Experience, and Psychological Theory in Banking Chatbot. *Nanotechnology Perceptions*, 20(S4), 378-398.
<https://doi.org/https://doi.org/10.62441/nano-ntp.vi.650>
- Shwedehe, F., Salloum, S. S., Aburayya, A., Fatin, B., Elbadawi, M. A., Al Ghurabli, Z., ... & Akkass, M. A. (2024). The impact of educating managers in adopting AI applications on decision making development: a case study in the UAE. In *Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom* (pp. 591-603). Cham: Springer Nature Switzerland.
- Martinez, E. B., Al-Kassem, A. H., & Aguenza, B. B. (2022). Operationalization of Negosyo Center as an entrepreneurial strategy to selected micro, small, and medium enterprises in Taguig City. *Global Business & Management Research*, 14.
- Khatib, M. E., Al-Nakeeb, A., Binkhadim, S., & Shehata, O. (2024). Modern digitization, technical integration, and social sustainability: Together toward better quality of life. *2024 2nd International Conference on Cyber Resilience (ICCR)*, 1-5. IEEE.
- Al-Qassem, A. H., Tharwat, A., & Marwaha, S. (2024). The impact of digital transformation readiness towards the new normalcy in the education system. *The International Journal of Learner Diversity and Identities (IJLDI)*, 31(1), 601-613.
- Sihag, P., Mehta, T., Sammen, S. S., Pande, C. B., Puri, D., & Neyara Radwan (2024). Predictive modelling of nitrogen dioxide using soft computing techniques in Agra, Uttar Pradesh, India. *Physics and Chemistry of the Earth*, 134.
<https://doi.org/10.1016/j.pce.2024.103589>

- Murtaza, A., Rehman, A., Malik, S. U. R., Ahmed, G., Abbas, A., & Khan, M. A. (2024). A model-based approach to enhance the communication between the participants of collaborative business processes. *IEEE Access*, 12, 121780 – 121791 3450690.
- Alzoubi, H. M., Tan, C. L., El Khatib, M., Alshurideh, M. T., Shwede, F., Yanamandra, R., & Lee, K. L. (2025). Smart Government Initiatives: Transforming Global Supply Chains through Digital Change. *International Review of Management and Marketing*, 15(3), 209–217.
<https://doi.org/https://doi.org/10.32479/irmm.18962>
- Sambidge A., (2014), "UAE Launches Project To Improve 'Smart' Banking Services." *Arabian Business*. Web. 15 July 2017. Available <http://www.arabianbusiness.com/uae-launches-project-improve-smart-banking-services-552951.html> (Accessed: 14 July 2017).
- Santos, J. (2003), "E-service quality: a model of virtual service quality dimensions", *Managing Service Quality*, Vol. 13 No. 3, pp. 233-46.
- Shen, A. A., & Ball, D. (2009). Is personalization of services always a good thing? Exploring the role of technology mediated personalization (TMP) in service relationships. *Journal of Services Marketing*, 23(2), 79-91.
- Singh A., (2017), "25% of UAE respondents would recommend their bank." *Souq Almal*. Web. 15 July 2017. Available <https://www.souqalmal.com/financial-education/ae-en/uae-residents-not-satisfied-bank/> (Accessed: 14 July 2017).
- Szymanski, D.M. and Hise, R.T. (2000), "E-satisfaction: an initial examination", *Journal of Retailing*, Vol. 76 No. 3, pp. 309-322.
- Tiwari R, Buse S (2007) *The Mobile Commerce Prospects: A Strategic analysis of opportunities in the banking sector*. Hamburg University Press pp: 1-236.
- Wang, M., Cho, S. & Denton, T. 2017, "The impact of personalization and compatibility with past experience on e-banking usage", *The International Journal of Bank Marketing*, vol. 35, no. 1, pp. 45-55.
- Worku G, Tilahun A, Tafa MA (2016) *The Impact of Electronic Banking on Customers' Satisfaction in Ethiopian Banking Industry (The Case of Customers of Dashen and Wogagen Banks in Gondar City)*. *J Bus Fin Aff* 5: 174.
- Yang, Z. and Fang, X. (2004), "Online service quality dimensions and their relationships with satisfaction", *International Journal of Service Industry Management*, Vol. 15 No. 3, pp. 302-326.
- Anifa, M., Ramakrishnan, S., Joghee, S., Kabiraj, S., & Bishnoi, M. M. (2022). Fintech Innovations in the Financial Service Industry, *Journal of Risk and Financial Management*, 15(7), 287. MDPI AG <http://dx.doi.org/10.3390/jrfm15070287>
- El Khatib, M., Mahmood, A., Al Azizi, A., Al Marzooqi, A., Al Abdooli, K., Al Marzooqi, S., ... & Alshurideh, M. (2023). A trial to improve program management in government bodies through focusing on program resource management: Cases from UAE. In *The effect of information technology on business and marketing intelligence systems* (pp. 1315-1340). Cham: Springer International Publishing.
- Alshurideh MT, Al Kurdi B, Alzoubi HM, et al. Factors affecting customer-supplier electronic relationship (ER): A customers' perspective. *International Journal of Engineering Business Management*. 2023;15. doi:10.1177/18479790231188242
- Neyara Radwan Halder, B., Ahmed, M. F., Refadah, S. S., Khan, M. Y. A., Scholz, M., Sammen, S. S., & Pande, C. B. (2025). Seasonal precipitation and anomaly analysis in Middle East Asian countries using Google Earth Engine. *Water*, 17(10), 1475. <https://www.mdpi.com/2073-4441/17/10/1475>
- AlShawabkeh, A., Kharbat, F, Abu Daabes, A., and Woolsey, L. (2023), "Technology- based Learning and the Digital Divide for Deaf/hearing Students during Covid-19: Academic Justice lens in Higher Education", *Educational Technology & Society*, 26(4).
- Alshurideh, M., Tariq, E., Al Kurdi, B., Al-Ahmed, H., Al-Sulaiti, K., Alzoubi, H. M., Alzboun, N., Ahmed, G., Allozi, Y., & Alshaketheep, K. (2025). How the company interrelated factors increase business with existing customers with customer hotel experience as a moderator variable: Empirical study in the hotels. *Uncertain Supply Chain Management*, 13(2), 447–454.
- Samer Hamadneh, Muhammad Turki Alshurideh, Haitha M. Alzoubi, Iman Akoure, Barween Al Kurdi and Shanmugan Joghee (2023). Factors affecting e-supply chain management systems adoption in Jordan: An empirical study, *Uncertain Supply Chain Management*, 11(2023), 411-422. doi: 10.5267/j.uscm.2023.3.008
- Tanveer, A., Iram, Saleem, S., & Neyara Radwan (2025). Peristaltic rotating motion of couple stress nanofluid affected by Soret and Dufour effects: An application to nanotechnology. *ZAMM - Journal of Applied Mathematics and Mechanics*, 105(5). <https://doi.org/10.1002/zamm.70047>
- Khatib, M. E., Angelova, Y., & Kazim, H. (2024). Digital transformation significance on quality of SMART services: Innovation, mobility, adaptability, analytical ability and trust. In *2024 2nd International Conference on Cyber Resilience (ICCR)* (pp. 1–4). IEEE.
- Som, A. P. M., Shariffuddin, N. S. M., Zain, W. M. A. W. M., & Al-Qassem, A. (2023). The influence of socio-cultural and economic impact on tourism support: A mediating role of community value. *Planning Malaysia*, 21.
- Kharbat, F., AlShawabkeh, A., Sharairi, M. (2024), "A research-based ontology for collaborative innovation: a methodology leveraging ai and domain expert knowledge", *Jordanian Journal of Computers and Information Technology*, 10(3), pp. 265 – 280.
- Kabiraj, S., & Shanmugan, J. (2009). Indigenous Customer Relationship Management Practices in Indian Automobile Companies: Strategic Implications. *International Journal of Management Perspectives*, 1(4) 1-11.
- Kharabsheh, A. A. E. A., Alnuaimi, M. A., & Alzoubi, H. M. (2024). The Impact of Employee Empowerment and

- Organizational Citizenship Behavior with Mediating Role of Job Satisfaction at Amman Private Hospitals. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 483-500). Cham: Springer Nature Switzerland.
- Rosmadi, H. S., Ahmed, M. F., Neyara Radwan Chen Kim Lim, M. B. M., Halder, B., Scholz, M., & Pande, C. (2025). Flood management framework for local government at Shah Alam, Malaysia. *Water*, 17(4), 513. <https://doi.org/10.3390/w17040513>
- Naim, H., Rani, L., Omair, A., Aziz, T., Ahmed, G., & Rafiuddin, A. (2024). Ownership concentration impact on the firm performance: Evidence from the manufacturing and services industrial sector. *Corporate Ownership & Control*, 21(4), 28–40.
- Joghee, S., Kalra, D., Ramakrishnan, S., Nair, K., & Alzoubi, A. A. (2023). Digital entrepreneurial marketing strategy: An empirical analysis using resource based theory. In *2023 International Conference on Business Analytics for Technology and Security (ICBATS)* (pp. 1–5). IEEE. <https://doi.org/10.1109/ICBATS57792.2023.10111356>
- Alkathheeri, S., Hilmi, M. F., Ahmed, G., & Abudaqa, A. (2025). Impact of strategic outsourcing on operational performance: A moderating role of information sharing in the healthcare industry of UAE, under the influence of predominantly oil economy. *Journal of Mines, Metals and Fuels*, 73(7), 1–14.
- Haitham, M. A., & Gouher, A. (2024). Factors affecting attitude to use metaverse technology application. *International Journal of Data and Network Science*.
- Joghee, S., & Kabiraj, S. (2013). 'Innovation in product promotions: A Case of Intended Use of Characters in the Chinese Market' *European Journal of Business Management*, 5 (1)120-131.
- Tangri, K., Joghee, S., Kalra, D., Shameem, B., & Agarwal, R. (2023). Assessment of perception of usage of mobile social media on online business model through Technological Acceptance Model (TAM) and Structural Equation Modeling (SEM). In *2023 International Conference on Business Analytics for Technology and Security (ICBATS)* (pp. 1–6). IEEE.
- Yas, H., Dafri, W., Sarhan, M. I., Albayati, Y., & Shwede, F. (2024). Universities Faculty's Perception of E-learning Tools: Filling the Gaps for Enhanced Effectiveness. In *Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom* (pp. 573-588). Cham: Springer Nature Switzerland.
- Shao, Y., Arshad, Z., Neyara Radwan Shah, Z., Raja, M. A. Z., Almomhamadi, S. M., & Khan, W. A. (2025). Investigating the radiative heat transfer analysis of magnetized Cross fluid flow capturing variable properties around paraboloid surface using artificial intelligence stochastic approach. *Chaos, Solitons & Fractals*, 191. <https://doi.org/10.1016/j.chaos.2024.115887>
- Shwede, F., Salloum, S. S., Aburayya, A., Fatin, B., Elbadawi, M. A., Al Ghurabli, Z., ... & Ismail, B. (2024). Prediction of Retailer's Intention to Use Chat-GPT in Educating Retailers: A Case Study in the UAE. In *Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom* (pp. 389-402). Cham: Springer Nature Switzerland.
- Alzoubi, A. A., & Alzoubi, H. M. (2024). Implementing Machine Learning for the Analysis of Data. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 211-221). Cham: Springer Nature Switzerland.
- Alhashmi, M., Hilmi, M. F., Ahmed, G., & Abudaqa, A. (2025). Impact of green HRM on sustainable performance: Moderating role of green employee motivation among the resources industry based public entities in UAE. *Journal of Mines, Metals and Fuels*, 73(7), 1–13.
- Shehab, E., Som, A. P. M., & Al-Qassem, A. (2023). Destination image and tourist retention in Jerusalem. *Planning Malaysia*, 21.
- Alzoubi, A. A., Almarzooqi, I. A., & Alzoubi, H. M. (2024). Investigating Benefits of Digitalized in Home Systems. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 381-389). Cham: Springer Nature Switzerland.
- Neyara Radwan, Rana, B., Halder, B., Pramanik, M., Ahmed, K. O., Alshehri, F., & Pande, C. B. (2025). Impact assessment of climate variables using Google Earth Engine in semi-arid and tropical environments. *Acta Geophysica*, 73, 5095–5116. <https://doi.org/10.1007/s11600-025-01661-y>
- Alshurideh, M., Al Kurdi, B., Hamadneh, S., Chatra, K., Snoussi, T., Alzoubi, H. M., Alzoubi, N., and Ahmed, G. (2024). 'Utilizing Artificial Intelligence (AI) in enhancing customer-supplier relationship: An exploratory study in the banking industry' *Uncertain Supply Chain Management*, 12 (2024) 1-12. doi:10.5267/j.uscm.2024.5.005
- Alzoubi, H. M., Alshurideh, M. T., Al-Gharaibeh, S. M., Al-Shyaab, K. O. M., Al Kurdi, B., Al-Sulaiti, I., Ahmed, G., Bataineh, A. Q., Alquqa, E. K. (2025). Assessing Economic and Infrastructure Constraints on Electric Vehicle Purchase Decisions: A Demographic-Moderated Analysis in Emerging Markets. *International Journal of Energy Economics and Policy*, 15(3), 471–485.
- Al-Qasem, A. (2021). Impact of pandemic Coronavirus Disease (COVID-19) on United Arab Emirates tourism industry. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(7), 2556-2570.
- Nazeer, M., Saleem, S., Fatima, N., Imran, M., & Neyara Radwan (2025). Role of zeta potential and slip boundary conditions to improve the heat transfer analysis of hybrid nanofluid. *Journal of Radiation Research and Applied Sciences*, 18(3). <https://doi.org/10.1016/j.jrras.2025.101702>
- Kukunuru, S., Pillai, M. R., & Kassem, A. A. (2019). Creating happiness at workplace: Work team contributions and concerns. *Journal of Computational and Theoretical Nanoscience*, 16(12), 5313-5326.
- Ilyas, A., Akbar, S. S., Wajid, S. H., Joghee, S., Fatima, A., & Mago, B. (2023). The growing importance of modern technology in education. *2023 International*

- Conference on Business Analytics for Technology and Security (ICBATS), 1–4. <https://doi.org/10.1109/ICBATS57792.2023.10111128>
- Alqassem, A. H., & Panwar, N. S. (2022). Efficacy of accessible tourism dimensions for individuals with disabilities at the National Museum. *resmilitaris*, 12(4), 2449-2459.
- Sakkthivel, A. M., Ahmed, G., Moovendhan, V., & Ramu, N. (2025). A cross-sectional study of mall shopping behaviour of women consumers in United Arab Emirates and India: An empirical study. *International Journal of Business Excellence*, 36(2), 225–249.
- Al Kurdi, B., Nawaiseh, A., Alshurideh, M., Al-Ahmed, H., Al-Sulaiti, K., Allozi, Y., AlZoubi, M., Ahmed, G., Alshaketheep, K. (2024). Investigating the Main Factors Affecting Doing More Business with Existing Customers in Light of Customer Experience: An Empirical Study in the Malls. *International Review of Management and Marketing*, 14(6), 301–306.
- Nuseir, M., AlShawabkeh, A., Leibfried, L. (2021), "Factors affecting the use of social networks as a customer relationship management tool", *International Journal of Business Information Systems*, 38(2), pp. 179-199.
- Rana, B., Halder, B., Neyara Radwan, Pramanik, M., Ahmed, M. F., Alshehri, F., & Pande, C. B. (2025). Remote sensing-based impact analysis of artificial lighting on land surface temperature using Google Earth Engine. *Theoretical and Applied Climatology*, 156, 394. <https://doi.org/10.1007/s00704-025-05625-6>
- Karthika, D., Ramya, E., Farouk, M., & Alzoubi, H. M. (2024). An Effect of Big Data Analytics on Pandemic Prevention. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 183-196). Cham: Springer Nature Switzerland.
- Yas, N., Dafri, W., Yas, H., & Shwede, F. (2024). Effect of e-Learning on Servicing Education in Dubai. In *Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom* (pp. 623–639). https://link.springer.com/chapter/10.1007/978-3-031-52280-2_40
- El Khatib, M., Al Abdooli, K., Alhammedi, R., Alshamsi, F., Abdulla, N., Al Hammadi, A., ... & Alshurideh, M. (2023). The Role of Distance Learning Technology in Mitigating Unknown-Unknown Risks: Case of Covid-19. In *The Effect of Information Technology on Business and Marketing Intelligence Systems* (pp. 551-567). Cham: Springer International Publishing.
- Khan, M. F., Farooq, M. S., & Joghee, S. (2023). Increase the degree of accuracy by employing a more accurate classification approach. 2023 *International Conference on Business Analytics for Technology and Security (ICBATS)*, 1–7. <https://doi.org/10.1109/ICBATS57792.2023.10111398>
- Rana, B., Halder, B., Neyara Radwan, N., Hazra, M., Alshehri, F., Pande, C. B., Shafik, S. S., & Yaseen, Z. M. (2025). Two decadal monthly forest ecological challenges and climate variability analysis in Cambodia. *Acta Geophysica*. <https://doi.org/10.1007/s11600-025-01621-6>
- Treacy, S., Brandt, T., Al-Kharusi, S., Bakhadirov, M., Ahmed, G., Militaru, A. M. G., Bakker, D., & Dubickis, M. (2025). Cultural Differences of Needed Qualities Towards Entrepreneurship. *Journal of Entrepreneurship, Business and Economics*, 12 (2) 69-108.
- Shwede, F., Yas, N., Abdijabar, Z., Flayyih, N., Fadli, A., Yas, H., & Allouzi, A. S. (2024). The impact of intellectual property rights and the level of information sensitivity on information security in the United Arab Emirates. *Journal of Infrastructure, Policy and Development*, 8(8), 6303. <https://doi.org/https://doi.org/10.24294/jipdv8i8.6303>
- Almidfa, J. F., Alnawayseh, S. E., Al-Sit, W. T., & Alzoubi, H. M. (2024). Developing Rescue Mobile Application. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 501-513). Cham: Springer Nature Switzerland.
- Zeeshan, Mahmoud, E., Khan, W., Saleem, S., Kallel, M., & Neyara Radwan. (2025). Stability analysis of Casson hybrid nanofluid in a rocket engine nozzle with Cattaneo-Christov heat flux and velocity slip effects. *ZAMM - Journal of Applied Mathematics and Mechanics*, 105(5). <https://doi.org/10.1002/zamm.70103>
- Al-Nakeeb, A., El Khatib, M., & Zitar, R. A. (2024). From PMO to PMOCoe: How Manage Project Knowledge Process Improves Quality of Organization Knowledge Management Assets Cases from UAE. *International Journal for Computers & Their Applications*, 31(1).
- Al-Shawabkeh, A., Kofinas, A., and Sharp, M., (2011), "Developing an Innovative Knowledge Management Implementation Approach", Published in the proceedings the 12th European Conference on Knowledge Management, Passau, Germany.
- Hanaysha, J. R., Al-Shaikh, M. E., Joghee, S., & Alzoubi, H. M. (2021). Impact of Innovation Capabilities on Business Sustainability in Small and Medium Enterprises. *FIIB Business Review*. <https://doi.org/10.1177/23197145211042232>
- Al-Shawabkeh, A., Romanova, A., and Lim, A., (2016), "Developing an Open Source Knowledge Sharing System for Sustainable Hospitality Industry", University of Greenwich Conference.
- Kabiraj, S., & Shanmugan, J. (2011). Development of a conceptual framework for brand loyalty: A euro-mediterranean perspective. *Journal of Brand Management*, 18(4-5), 285-299 [doi: http://dx.doi.org/10.1057/bm.2010.42](http://dx.doi.org/10.1057/bm.2010.42)
- Nazeer, M., Almohammadi, S. M., Neyara Radwan, N., & Ahmad, W. (2025). Heat transfer analysis in hydromagnetic two-phase Williamson fluid through tilted channel: Applications of gold and silver nanoparticles in solar thermal energy. *ZAMM - Journal of Applied Mathematics and Mechanics*. <https://doi.org/10.1002/zamm.202400397>
- AlShawabkeh, A., Razmak, J., Qasim, A., Kharbat, F., (2018), "Enhancing internal communication in organisations using enterprise social networking", *International Journal of Economics and Business Research*, 15(1),

- pp. 72-86.
- Al-Shawabkeh, A., Kanungo, R., (2013), "Risk of Default Loans in Jordanian Banks under Credit Risk Classification Models", Banking, Finance, Money and Institutions: The Post Crisis Era" Conference held at University of Surrey.
- Al Najdawi, M. H., Zainab, A. A., Shwede, F., & Yehia, B. F. (2024). The Role of Legal Laws and Intellectual Property Rules in the Era of using Artificial Intelligence in Scientific Publications.
- Al-Qassem, A., & Al-Shamaila, M. (2021). Sustainable tourism development: Case study of Aqaba, Jordan. *The International Journal of Hospitality and Tourism Research*, 15(2), 51-76.
- Alzoubi, A. A., AlSuwaidi, A., & Alzoubi, H. M. (2024). Analyzing the Approaches for Discovering Privacy and Security Breaches in Iomt. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 345-355). Cham: Springer Nature Switzerland.
- Alzoubi, H. M., Al Kurdi, B., & Nuseir, M. T. (2024). Empowering Supply Chain Management System with Machine Learning. *Cyber Security Impact on Digitalization and Business Intelligence: Big Cyber Security for Information Management: Opportunities and Challenges*, 117, 335.
- El Khatib, M., Beshwari, F., Beshwari, M., Beshwari, A., Alzoubi, H. M., & Alshurideh, M. (2023). Can Better Capabilities Lead to Better Project and Program Governance? Cases from Dubai. In *The effect of information technology on business and marketing intelligence systems* (pp. 1295-1313). Cham: Springer International Publishing.
- El Khatib, M., Al Khayat, A., Al Mansoori, S., Alzaabi, A., & Ankit, A. (2023, March). Metaverse skills for executives and senior managers: The pros and cons. In *2023 International Conference on Business Analytics for Technology and Security (ICBATS)* (pp. 1-7). IEEE.
- Al-Qassem, A. H. (2024). The mediating role of tourist satisfaction in the relationship between destination authenticity and destination loyalty: The case of Machu Picchu. *The International Journal of Learner Diversity and Identities (IJLDI)*, 31(1), 601-613.
- El Khatib, M., Al-Shalabi, A., Alamim, A., Alblooshi, H., Alhosani, S., Al-Kaabi, E., ... & Alshurideh, M. (2023). How Drones Can Mitigate Unknown-Unknown Risks Case of Covid-19. In *The Effect of Information Technology on Business and Marketing Intelligence Systems* (pp. 717-732). Cham: Springer International Publishing.
- Alhashmi, M., Hilmi, M. F., Ahmed, G., & Abudaqa, A. (2025). Moderating role of green employee behaviour on the relationship between green HRM practices, green leadership and sustainable performance in the resources economy based public firms of UAE. *Journal of Mines, Metals and Fuels*, 73(7)14
- Ahmed, G., Al Amiri, N., & Abudaqa, A. (2024). Strategic leadership and economic transformation: The United Arab Emirates (UAE) model. *Journal of Global Business Research and Practice*, 1(1), 60-77.
- Al-Qassem, A. H., Tharwat, A., & Sahaweneh, N. (2025). Work addiction as an effective factor for employee's performance in the banking industry in Egypt. *Journal of International Business Policy*. Advance online publication.
- Alblooshi, M., Hilmi, M. F., Ahmed, G., & Abudaqa, A. (2025). Investigating the role of critical risk factors on the construction project success in the oil and gas industry. *Journal of Mines, Metals and Fuels*, 73(7), 1-10.
- Yas, H., Dafri, W., Sarhan, M. I., Albayati, Y., & Shwede, F. (2024). Universities Faculty's Perception of E-learning Tools: Filling the Gaps for Enhanced Effectiveness. In *Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom* (pp. 573-588). https://link.springer.com/chapter/10.1007/978-3-031-52280-2_36
- Anifa, M., Ramakrishnan, S., Kabiraj, S., & Joghee, S. (2024). Systematic Review of Literature on Agile Approach. *NMIMS Management Review*, 32(2), 84-105.
- Razmak, J., AlShawabkeh, A., Qasim, A., & Kharbat, F. (2018). Examining the factors affecting the adoption of e-health innovative technology. *International Journal of Economics and Business Research*, 16(2), 196-209.
- Shwede, F., Aldabbagh, T., Aburayya, A., & Uppilappatta, H. (2023). The impact of harnessing total quality management studies on the performance of smart applications: A study in public and private sectors in the UAE. *Migration Letters*, 20(S12), 83-108.
- Habbal, F., AlShawabkeh, A., Al Nuaimi, A., Safi, A., (2019), "Using virtual reality simulation for optimizing traffic modes toward service level enhancements", *Proceedings of the 36th International Symposium on Automation and Robotics in Construction, ISARC 2019*, pp. 831-837.
- Ma'asor, M. A., Som, A. P. M., Yusof, Y., & Al-Qassem, A. (2023). Level of Islamic attributes practices by Muslim-friendly hotels in Malaysia. *Planning Malaysia*, 21.
- Maydybura, A., Chang, A. G., Channa, K. A., Pan, S. H., Alzoubi, H. M., & Chang, B. H. (2024). Carbon emissions and the rising effect of foreign direct investment and trade openness: Evidence from panel data countries. *Advances in Decision Sciences*, 28(4), 1-22.
- Joghee, S., Kabiraj, S., Ramakrishnan, S., M. Alzoub, H., & Turki Alshurideh, M. (2023). Empirical study to understand marketing influence of environmental impact assessment on end users in UAE. *Digital Economy and Sustainable Development*, 1-12. <https://doi.org/https://doi.org/10.1007/s44265-023-00012-3>
- Al Kurdi, B., Alquqa, E. K., Al-gharaibeh, S. M., Alhyasat, K. M. K., Alzoubi, H. M., Alshurideh, M. T., Al-Oran, O., Ahmed, G., & Al-Sulaiti, G. (2025). Determinants influencing consumer adoption of energy-efficient home appliances in Jordan: An empirical analysis. *International Journal of Energy Economics and Policy*, 15(4), 780-788.
- Razmak, J., AlShawabkeh, A., Qasim, A., & Kharbat, F. (2018). Examining the factors affecting the adoption of e-health innovative technology. *International Journal of Economics and Business Research*, 16(2), 196-209.

- Al Hamadi, H., Alzoubi, H. M., Alyafei, M., Almokahel, A., Alyafei, M., Al-Sit, W. T., & Alnawayseh, S. E. (2024). Evaluation of Purchasers Mentalities When Buying IoT Home Security Devices. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 239-258). Cham: Springer Nature Switzerland.
- El Khatib, M., Alzoubi, H. M., Alshurideh, M., & Alzoubi, A. A. (2023). Project Quality Management in the United Arab Emirates Mining and Construction Sector: A Literature Review. The Effect of Information Technology on Business and Marketing Intelligence Systems, 1341-1353.
- Al Najdawi, M. H., Shwede, F., Abdelmoghies, M. M., Kitana, A., & Ali, A. (2024). Applying artificial intelligence in predicting educational excellence in higher education institutions: A case study in Jordanian universities. *Edelweiss Appl Sci Technol*, 8(6), 7273-7289.
- Shwede, F. (2024b). The Integration of Artificial Intelligence (AI) Into Decision Support Systems Within Higher Education Institutions. *Nanotechnology Perceptions*, 20(S5), 331-357. <https://doi.org/https://doi.org/10.62441/nano-ntp.v20iS5.26>
- Naim, H., Rani, L., Yattoo, T. A., Anas, M., Nizamuddin, M., & Ahmed, G. (2025). Does audit committee quality enhance firm performance within a new corporate law? *Corporate Law & Governance Review*, 7(2), 112-126.
- Sun, J., Garibaldi, M., and Al-Shawabkeh, A., (2016), "A Novel Hybridisation Strategy Based Memetic Algorithm for Constrained Optimisation", *Journal of Information Sciences*, Volume 340-341, pp. 175-190
- Nuseir, M., AlShawabkeh, A., (2019), "Marketing communication in the digital age: Exploring the cultural historical activity theory in examining Facebook's advertising platform", *International Journal of Electronic Customer Relationship Management*, 12(2), pp. 97-107.
- Pande, C. B., Neyara Radwan, N., Salim, H., Ahmed, K. O., Alshehri, F., Pal, S. C., & Pramanik, M. (2024). Forecasting of monthly air quality index and understanding of the air pollution in the Delhi city, India based on machine learning models and k-fold cross-validation. *Journal of Atmospheric Chemistry*, 82(1). <https://doi.org/10.1007/s10874-024-09466-x>
- Khatib, M. E., Harmoodi, S. A., & Angelova, Y. (2024). Virtual reality as a hub for innovation – Correlations and interdependencies. In *2024 2nd International Conference on Cyber Resilience (ICCR)* (pp. 1-5). IEEE.
- Kharbat, F.F., AlShawabkeh, A. and Woolsey, M.L. (2021), "Identifying gaps in using artificial intelligence to support students with intellectual disabilities from education and health perspectives", *Aslib Journal of Information Management*, 73(1), pp. 101-128.
- Al-Kassem, A. H. (2022). Accreditation of academic programs: Implications on quality governance and administration of Taguig City University. *Journal of Positive School Psychology*, 6(4), 3908-3923.
- El Khatib, M., El Baradie, M., & Alrashedi, M. B. (2024). AI capable emotional robot teacher as a new economical trend in education. In *2024 2nd International Conference on Cyber Resilience (ICCR)* (pp. 1-5). IEEE.
- Al-Qassem, A., Agha, K., Mendoza, S., & El-Farra, E. (2022). Emergency management and its implications for the hospitality industry during the Coronavirus Disease 2019 (COVID-19) outbreak. *Journal of Positive School Psychology*, 6(2), 1824-1839.
- Khan, W. A., Hussain, Z., Neyara Radwan, N., Ali, M., & Jamal, N. (2024). Characterizing non-similar analysis for chemically reactive magnetized Sutter by bidirectional fluid flow capturing features of non-linear thermal radiation. *Journal of Radiation Research and Applied Sciences*, 17(4). <https://doi.org/10.1016/j.jrras.2024.101152>
- AlShawabkeh, A., Nuseir, M.T., Urabi, S. (2023), "The Impact of Social Media Usage on Companies' Customer Relationship Management (CRM)", *Studies in Computational Intelligence*, Vol. 1056, pp. 147-172
- Alzoubi, A. A., Alhamadi, M. K., Alhamadi, K. A., Alhamadi, A., & Alzoubi, H. M. (2024). Investigating Impact of Ethical Considerations on IoMT Medical Devices of UAE Healthcare System. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 391-402). Cham: Springer Nature Switzerland.
- AlNaoimi, B., AlRaesi, R., AlKaboory, O., Aziz Alrasasi, A., Al-Sit, W. T., Alnawayseh, S. E., & Alzoubi, H. M. (2024). Data Warehousing for Assisting the Decision Makers. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 197-209). Cham: Springer Nature Switzerland.
- Al-Qassem, A. H., Singh, N., Chopra, A., & Haddad, A. M. (2024). Impact of coronavirus crisis (COVID-19) on the sentiments of travelers in UAE. *The International Journal of Learner Diversity and Identities (IJLDI)*, 31(1), 601-613.
- Alshurideh, M., Al Kurdi, B., Okleh, I., Chatra, K., Al Omari, T.G.B., Alzoubi, H.M., Alzboun, N., Ahmed, G. and Abduljabbar, O.J. (2024) 'Factor affecting internet information credibility: The moderating effect of gender' *International Journal of Data and Network Science*, 8 (2024)1-8. doi:10.5267/j.ijdns.2024.5.011
- Alzoubi, A. A., ALKaabi, R., ALAmeri, S., & Alzoubi, H. M. (2024). Contemporary Security Concerns in IoT-Based Devices with Healthcare System. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 423-436). Cham: Springer Nature Switzerland.
- Alblooshi, M., Hilmi, M. F., Ahmed, G., & Abudaga, A. (2025). The moderating effect of risk management on the relationship between critical risk factors and project success: A case of construction projects in the oil and gas industry of the UAE. *Journal of Mines, Metals and Fuels*, 73(7), 1-13.
- Ismail, M., Neyara Radwan, Khan, W. A., Hussain, Z., & Hussain,

- I. (2024). Analyzing numerical insights of entropy generation and existence of chemotactic microorganisms for magnetized radiative Carreau nanofluid flow subjected to stratified medium via viscous dissipation. *Journal of Radiation Research and Applied Sciences*, 17(4). <https://doi.org/10.1016/j.jrras.2024.101197>
- AlShawabkeh, A., Woolsey, L., Kharbat, F. (2021), "Using online information technology for deaf students during COVID-19: A closer look from experience", *Heliyon*, 7(5),e06915.
- Alshurideh, M. T., Al Kurdi, B., Alzoubi, H. M., Ghazal, T. M., Said, R. A., AlHamad, A. Q., ... & Al-Kassem, A. H. (2022). Fuzzy assisted human resource management for supply chain management issues. *Annals of Operations Research*, 1-19.
- Joghee, S., Kabiraj, S., Ramakrishnan, S., & Alzoubi, H. M. (2024). Consumer Decision-Making Study Regarding the SUV Market in the Indian Context. *Indian Journal of Marketing*, 54(11), 8-25.
- Alzoubi, A. A., Al Neyadli, A., & Alzoubi, H. M. (2024). Security Flaws in Medical Wearables Devices Used in Health Care Systems. In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 291-299). Cham: Springer Nature Switzerland.
- Aldawsari, S. H., Tan, W. S., Elsherazy, T. A., Chang, B. H., Alzoubi, H. M., & Ognjanović, I. (2024). A Quantile Dependence among Exchange Rate, Stock Prices and Oil Prices: An Empirical Evidence from India. *Annals of Financial Economics*, 19(03), 2450010.
- Alzoubi, A. A., Shammas, S., & Alzoubi, H. M. (2024). Investigating E-Supply Chain Challenges in The Internet of Medical Things (IoMT). In *Technology Innovation for Business Intelligence and Analytics (TIBIA) Techniques and Practices for Business Intelligence Innovation* (pp. 357-367). Cham: Springer Nature Switzerland.
- El Khatib, M. M., Abidi, N., Al-Nakeeb, A., Alshurideh, M., & Ahmed, G. (2023). Dubai smart city as a knowledge based economy. In *The effect of information technology on business and marketing intelligence systems* (pp. 1657-1672). Cham: Springer International Publishing.
- Yas, H., Aburayya, A., & Shwede, F. (2024). Education quality and standards in the public school and the private school-case study in Saudi Arabia. In *artificial intelligence in education: The power and dangers of ChatGPT in the classroom* (pp. 563-572). Cham: Springer Nature Switzerland.
- Halder, B., Chatterjee, P., Rana, B., Bandyopadhyay, J., Pande, C. B., Ahmed, K. O., Elkhachy, I., & Neyara Radwan. (2024). Delineating the climate change impacts on urban environment along with heat stress in the Indian tropical city. *Physics and Chemistry of the Earth*, 136. <https://doi.org/10.1016/j.pce.2024.103745>
- Som, A. P. M., & Al-Qassem, A. (2023). The influence of social and economic inequalities on support for tourism in developing communities: An intervening effect of tourism resources. *Planning Malaysia*, 21.
- Alshurideh, M. T., Alzoubi, H. M., Al Kurdi, B., Hamadneh, S., Ahmed, G., Al-Sulaiti, K., Bataineh, A. Q., Alquqa, E. K., Ozturk, I. (2025). Consumer and Economic Influences on Electric Vehicle Adoption: The Mediating Role of Attitudes and the Moderating Effect of Demographics. *International Journal of Energy Economics and Policy*, 15(3), 214-229.
- Lee, K. L., Amin, A. J., Alzoubi, H. M., Alshurideh, M., El Khatib, M., Joghee, S., & Nair, K. (2024). Investigating the factors affecting e-procurement adoption in supply chain performance: An empirical study on Malaysia manufacturing industry. *Uncertain Supply Chain Management*, 12(2), 615-632.
- Kofinas, A., Al-Shawabkeh, A., and Lim, A., (2016), "Critical Success Factors of Using Social Media in Higher Education", chapter in a book titled *Analysing the Strategic Role of Social Networking in Firm Growth*.
- Kanwal, N., Irtaza, G., Joghee, S., Ateeq, K., & Khadim, A. (2023). A safe and reliable method for data exchange in the cloud. 2023 International Conference on Business Analytics for Technology and Security (ICBATS), 1-7. <https://doi.org/10.1109/ICBATS57792.2023.10111401>
- Al-Shawabkeh, A., Lim, A., (2014), "The Use of Social Media in Higher Education Learning", *European Conference on Social Media ECSM 2014*.
- Al-Kassem, A. H., & Marwaha, S. (2022). Employee satisfaction and its impact on faculty members' performance at Al Ain University of Science and Technology in the UAE. *NeuroQuantology*, 20(2), 272-287.
- Pande, C. B., Sidek, L. M., Varade, A. M., Elkhachy, I., Neyara Radwan Tolche, A. D., & Elbeltagi, A. (2024). Forecasting of meteorological drought using ensemble and machine learning models. *Environmental Sciences Europe*, 36, 160. <https://doi.org/10.1186/s12302-024-00975-w>
- Al Kurdi, B., Alshurideh, M. T., Akour, I., Alzoubi, H. M., Obeidat, Z. M., Hamadneh, S., & Joghee, S. (2023). Factors affecting team social networking and performance: The moderation effect of team size and tenure. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100047.
- Al-Kassem, A. H. (2021). Significance of human resources training and development on organizational achievement. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(7), 693-707.
- Salloum, S. A., Almarzouqi, A., Aburayya, A., Shwede, F., Fatin, B., Al Ghurabli, Z., ... & Alfaisal, R. (2024). Redefining Educational Terrain: The Integration Journey of ChatGPT. In *Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom* (pp. 157-169). Cham: Springer Nature Switzerland.
- Salloum, S. A., Almarzouqi, A., Aburayya, A., Shwede, F., Fatin, B., Al Ghurabli, Z., ... & Alfaisal, R. (2024). Embracing ChatGPT: Ushering in a Revolutionary Phase in Educational Platforms. In *Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom* (pp. 171-183). Cham: Springer Nature Switzerland.
- AlShawabkeh, A., Nuseir, M.T., and Aljumah, A. (2021), "Impacts of social media on the buying intention of the consumers in Edinburgh, UK", *International Journal of Procurement Management*, 14(4), pp. 470-

486.