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The Impact of Digitization on the Work Efficiency of UAE Banks' Employees during the COVID-19 Pandemic

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Abstract

The purpose of this study is to provide an in depth understanding of how digital services in the UAE banking sector influence the operational activities of its employees. This study aims exploring the relationship between the digital services implemented by the UAE banks and its impact on the work efficiency of its employees during the COVID-19 pandemic. A quantitative research conducted through a structured questionnaire is designed to collect data from a group of employees and managers working in the UAE banks. Top 10 commercial banks incorporated in the UAE are selected to complete the survey. Target respondents are working staff in different departments of selected bank branches in the emirates of Abu Dhabi, Dubai, Sharjah, and Ajman. The respondents are selected at random employing convenience sampling method. The research methodology relies on a survey of UAE digital banking services and the work efficacy of bank staff during the COVID 19 pandemic. Therefore, to analyze the data Simple Linear Regression analysis and ANOVA analysis were performed to explore research hypotheses on the relationships among the study factors. Results showed that internal and external factors that control the Digital Banking (DB) adoption could negatively influence the efficiency of workforce participation in the bank operations, but never replace the human factor, specifically with the consideration of needs, culture, and norms of the customers dealing with UAE banks. This study has shown significant useful implications for digital banking services and bank operational and financial performance during COVID-19.

Keywords: Digital Banking, COVID-19 Pandemic, Service Quality, Security.

1. Introduction

Several studies have determined that the COVID-19 pandemic has had a serious impact on the business practices including employees' work efficiency and their implications, however, most of them lean towards generalities, providing observations and/or guidance seeking to foresee what the post-COVID-19 scenario would be. For example, remote work would become the corporate method for many organizations, or work practices would be more flexible. Though, this is already happening, since COVID-19 is a global pandemic, we need to understand its impact on the business practices and human resource management in specific contexts such as focusing on the role of human resources in the performance of companies' work. However, there are likely to be many domestic and country-wise differences, many analysts forecast an increase in remote work in the future, whereas, this is far from certain that we have followed the scene yet.

On the other hand, **Fox (2020)** believes that organizations will review the effectiveness of remote work, in addition to the fact that many organizations have declared their lack of commitment to long-term remote work. Nonetheless, most organizations even don't know how remote work affects performance and productivity, since most of them are using it for the first time. Apparently, the organizations are discussing this issue with unclear approach about whether remote work will continue after the pandemic. As many of the central issues regarding business continuity revolve around business practices and individual management.

The transition to remote work does not suit everyone, and even in the UAE, the long lockdown period has never been implemented. Psychological well-being and safety are a problem. Working from home will also be particularly important in influencing well-being and safety, for example, in relation to spatial arrangements and family requirements.

However, a number of employees' attitude towards working on site remained positive in terms of finding it more beneficial for the business continuity and progress. For example, employees' willingness to collaborate with each other and with HR professionals and departments in making changes, and employee's willingness to be flexible and adaptable; Compliance with necessary changes in safety measures and; a desire to learn and gain skills quickly. HR professionals need to be experts in providing advice to managers on how to effectively manage workforce performance remotely. Instead, the Saudi Arabian government's localization policies, companies are replacing expatriate staff with local jobs in order to escape government penalties. As a consequence, it's critical to comprehend how job insecurity can influence expatriate employees' well-being perceptions and employee's behaviors **(Ali et al. 2020)**.

In the past few decades, the banking sector has undergone a profound transformation due to changes in the global financial environment. The main change witnessed in the banking sector was the great progress in financial innovations and technologies due to the turmoil in the global financial environment that led to the improvement in electronic banking financial innovations and technologies. Nowadays, most banks still rely on employment and job training to improve services but, the growth in the artificial intelligence leads to increase the performance through communication between skilled personnel and technology. Thus, banks need to attract skilled people in this industry especially in the era of pandemic proliferation **(Karam 2019)**.

2. Significance of the Study

There is no doubt that digitization has changed the overall activities of banks and other financial institutions through the development of quantum computing which has accelerated technology growth in the financial sectors. Therefore, this study is significantly important for the banking industry experts and practitioners as well as academicians and researchers to understand the gravity of latest developments and technological innovations which emerged and captured the whole industry in this COVID-19 pandemic.

3. Review of the Related Studies

Gigauri (2020) considered that the profound changes caused by the Coronavirus COVID-19 have unprecedented impacts on companies around the world and have greatly affected human resource management. The HR department took the leadership to navigate the uncertain present and unexpected future by managing people to deal with stress and continuing to work remotely, so that the business could continue its operations **(Karam and Kitana 2020)**. However, the HR department had to deal with dismissals and staff reductions due to the pandemic shutdown and technology dependence.
Similarly, **Sigma and Oecd (2020)** explored that with the gradual reopening of places and services, all countries require advanced resources to return to work physically. This return to work on the site is predicted to create a challenge for public institutions and individuals. Public organizations, managers, and employees who will face these new situations with 'pre-COVID' thinking with very strict civil service regulations. Therefore, there is a need for innovation and 'out of the box' thinking to find responses appropriate to the COVID context.
The study of **Sigma and Oecd (2020)** listed four general positions that institutions confronted with during the COVID-19 period:

1. Insufficient number of staff working on the site,
2. Health risks on the workplace,
3. Considering low motivation, stress, and exhaustion, how can employees be supported to deal with stress and anxiety related to the Coronavirus?
4. Managing a large number of employees who worked remotely for a long time?

Furthermore, **Meister (2020)** investigated the impact of coronavirus on the workplace among 350 HR leaders in the United States to explore the result of survey. The results indicated that companies will create a system dedicated to artificial intelligence-powered skills, refine skills and explore new private partnerships with learning institutions, traditional and non-traditional, as well as startups in the field of educational technology. Also **Meyer (2020)** has surveyed on the human resources departments at American banks to directly obtain their opinions and most pressing concerns. Their study results indicated three main areas of concern: wages and compensation, employment and communication. It concluded that the pandemic changed the traditional banking model, and most of them followed technology-based operating models that reduced the role of human resources.

Additionally, in a survey conducted by Price Waterhouse Cooper (PWC) on the impact of COVID19, with the participation of financial leaders in the United States and Mexico, about their main concerns. 71% of respondents observed the financial impact, including effects on operating outcomes, future investment, liquidity and capital resources, as the biggest challenge, while 64% of them reported with the challenge arising from the global recession, and 41% confirmed their concerns about the implications for the workforce and lower productivity **(Price Waterhouse Cooper, 2020)**. Furthermore, **Chidambaram (2020)** showed that employees working in any industry, including financial services, need to be protected from the negative impacts of this pandemic and the economic damage it has actually caused. He indicated that although not all banking activities are directly transferred to work from home, many jobs have become digital, such as bank teller services, clearing, and dealing with physical documents in commercial operations and dealing in foreign currencies, etc. reducing the number of employees, laying off some, and pushing banks to upgrade their digital capabilities. Furthermore, he stressed the need for banks to explore technical solutions to address the information technology infrastructure gaps related to communications, training, security, networks, joint work and remote work capabilities **(Kitana and Karam 2017)**.

In the same context **Sweety and Anshu (2017)** conducted a study on analyzing the impact of electronic banking and information technology on banking sector employees in India, they found that it had revolutionized the lives of all individuals today, and considered it as a wave of the information revolution after the agricultural and industrial revolution. However, they indicated that bank customers were previously required to visit one of the bank's branches in person in order to deal through their savings accounts. But, with the arrival of internet banking, the way financial transactions are executed has changed. Although electronic banking services have been popular with computer users for many years, their popularity is growing steadily with the growth in the use of the internet and the discovery by people of the many advantages provided by Internet banking services, especially in integrated financial systems that face higher volatility, greater competition, and constriction along the time. So, electronic banking services have become an integral part of the global financial environment in order to meet the requirements of different customers in the banking sector, and thus meet the growing expectations of subscribers in the Indian banking system **(Sleimi et al. 2018)**.

Similarly, **Nour (2019)** noted that traditional banks are struggling to cope up the competition, and striving for survival. However, it will be taken over by Fintech banks that use technology and data to provide more retail banking services. She described them as the "new bank" that was launched to acquire traditional bank customers by providing them with innovative banking services. They offer more options to customers through online banking and do not work in traditional physical branch networks. Nour cites many examples in her blog such as: Starling Banks and Monzo in the UK which are digital banks that rely on mobile devices only and work on advanced technology within the company. Also, in the USA, Chime and Moven are at the forefront of smartphone-dependent banks rather than physical location. Goldman Sachs, the traditional investment bank, switched to digital retail in 2016. Consequently, consumers all over the world are adopting digital banking. Thus, banks need to adapt or be old (you live or die).

However, **Talluru and Nagyya (2006)** found that in the era of competition and revolution in technology, financial institutions must strive to expand their customer base and improve their satisfaction. She emphasized that the presence of CRM is a useful tool to make banks more profitable by retaining customers, reducing costs, and increasing the value of interaction. Technology, customers and individuals are the three components on which a bank’s success in this changing economic environment depends. Therefore, the banking sector has effective technology requirements in order to meet customer needs and exceed their expectations, while maintaining high levels of safety.

On the same note, **Deloitte (2020)** argued that "Strong today, weaker tomorrow" that the Artificial intelligence (AI) revolution will change the image of managing our financial lives, not only how we buy our financial services, but also change the products and services themselves. Also, they mentioned that banks are forced to adapt to FIN-Tech in offering their products, and what might make banks strong today may be a challenge tomorrow. Moreover, the strength of future banks will no longer be measured by their assets, but by the size of the data and how it can be used effectively.

Although, **Rod (2009)** explained that advanced banking services and management were available about 10 years ago; however, they weren't evaluated by management quality that were restricted. Along these lines, the present examination provides an outline of the vertical monetary procedures, and attempts to assess their implementation based on the nature of management. He indicated that the evaluation of the quality of management had been examined, but it ignored the collection of data on the basis of the external customer wants. He stressed the importance of coordination between the two dimensions: quality of management and the features that customers want.

Fuchs (2012) found that the web portal is still far from being a clearly real problem despite the fact that many parts of the world have the newest and fastest from of the internet with 4G and 5G openness. However, few areas enjoy that.

Furthermore, **Hanafizadeh et al. (2014)** explained in their paper a few places in the world that suffer from a shortage of telephone lines, and note that the availability of a decent and fast network has a major impact on the effective delivery of Internet banking services. They found that, if the country has a great web, customers are much more likely to benefit from the financial services provided on the websites of their banks. In addition, if the openness of the web is weak due to poor network or lack of security, clients will visit their bank sites, and therefore not use the web-based financial services.

Likewise, **Kamath (2010)** analyzed how financial institutions are moving towards long-term banking services backed by the deregulation of restrictions on investment in technology by monetary authorities and imaginative advances in the technology. Where innovation played a tangible role in restructuring business related to cash through ATMs, tele-bank, online banking, flexible banking, etc. Most banks have formally implemented this by providing their services anytime, anywhere through their webs. According to the survey advanced financial departments have shown that they have a very large role in technology investments. In the period when the cash business was concentrated, management thought and procedures were completely restructured through continuous progress in innovation in banking services, as well as modification of the way of buying and selling products and managing it. The fundamental and major change that financial business has been working on reliably is changing the exchange of cash from familiar configuration to more digital and robotic design **(Williams et al., 2009)**.

In addition, **Kumbhar (2011)** analyzed the relationship between achieving the goals of both the socioeconomics and customer needs of online banking services, and the connection between quality management and customer satisfaction as is the case in the management of internet banking services provided by public sector banks and private sector banks. Further, was indicated that according to recent research, that the socioeconomics of customers is a prominent place among the most important dynamic variables that affect the use of online banking in general. The results of the targeted samples, whether they are highly-paid individuals or reputable institutions, have also shown that they are making good use of e-banking services.

Be that as it may, **Bahl (2012)** illustrated about how bank managers manage online banking, and how they set principles to ensure the optimal use of their new baby, as the occurrence of a minor problem can lead to major problems. He believes that the administration is not able to put in place sufficient guidelines to deal with web problems, neither present nor in the future, because it is a complex issue.

In the same way, **Goldmann (2011)** indicated how cross-border payment premiums are managed, how the economy evolves, and invalidates business penetration points through Internet banking. For some institutions around the world, it is recommended that internet banking be the best way to raise money for their investment. Likewise, it is proposed to promote these projects and establish guidelines and laws to secure the wishes and needs of the buyer and the merchant in order to raise the level of prosperity of the organizations.

Furthermore, **Ahmed (2011)** examined the way in which online banking services can provide customers with strong departments that define their desires, and how these departments can make a positive impact on their job fulfillment. The analyst estimated that web-based financial management has a favorable stance similar to traditional methodologies and can also help improve customer engagement. Hence, the investigation meant to comprehend a similar utilizing the ESERVQUAL show. Bank Islam Malaysia Brhd (BIMB) was selected, and the specialist examined five unique components of values: responsiveness, effects, confirmation, unwavering quality, and passion. Factors were tried to figure out how to determine the quality of management online with consumer loyalty through an opinion poll. The discoveries showed that there is a positive relationship between online administration and customer fulfillment. The examination similarly reached a decision that sympathy, reliability and responsiveness have a greater commitment to the extent that it satisfies the clients of the above-mentioned bank through online banking departments.

A survey conducted by Gulf News newspaper **(Gulf news 2020)** revealed that 67 per cent of UAE Bank customers find it easier to use electronic banking procedures than visiting the branches in person. Consequently, banks and managers in the United Arab Emirates are in urgent need to understand the customer's point of view in this regard in order to develop digitization and obtain customer acceptance and satisfaction. Hence, Emirates NBD became the first bank in the region that permit new clients to open a bank account and have their identity documents verified using contactless NFC technology through its mobile banking application.

Moreover, according to the report of the Central Bank of the United Arab Emirates, which was published in Gulf News on Sunday 02/23/2020, the number of bank employees decreased by 2.71% in 2019, and 992 job opportunities were canceled with a note that the total of bank employees was 35,637 employees in 2019. The UAE Central Bank also indicated that it is studying the impact of reduced bank employees on the economy, customers, and regulation. Further, the Central Bank of the United Arab Emirates issued a new regulation on stored value facilities (SVF) according to the bank's website on November 3, 2020 **(Blockchain 2020)**. Definitely, this regulation will ensure that the stored value products and services are operated in a secure, sound, and efficient manner in the United Arab Emirates. Thus, the private investment funds will become easier for financial technology companies and non-bank payment service providers to easily access the UAE market while continuing to protect clients' funds, ensure business smoothness and support the development of payment products and services. The implementation of the regulation will begin after a one-year transitional period from the date of the regulation's entry into effective.

4. Objectives of the Study

This study aims to explore the latest digitization developments of the financial industry and its cost and benefit effect on the organization. The study focuses to probe the relationship between the digital services implemented by the UAE banks and its impact on the work efficiency of its employees during the COVID-19 pandemic.

5. Research Problem

The Digital Banking (DB) adoption such as regulations, competitive Fintech market, and impact of COVID19 on staff work efficiency being non-measurable data is hard to be rationalized by managerial theories. Traditional banks are being challenged by digital transformation to simplify and digitize their products and processes in order to meet the changing needs of their customers. The benefit of digitally advance banks is that they can build lean digital solutions from the ground up, with a laser focus on consumers and their needs. The challenge they face is ensuring personalized and tailored contact in order to build deep consumer loyalty across these digital-only platforms. Therefore, the role of human resources will be marginalized, resulting in facing another problem for the banking industry. Regulatory standards and the assurance of the highest level of protection should not be overlooked. Despite these obstacles, I am persuaded that the future of banking will be entirely digital and that we must reconsider our definition of "what makes a bank a bank." However, most of the studies in the literature consider the DB as the most important trend to be comprehensively adopted. During the pandemic, the world is witnessing an increase in automation processes, which poses a great challenge to employees and puts them in a state of so-called "automation concern", as they are unable to predict the impact of technology on jobs. The installation of the ATM centers enabled the customer to carry out financial transactions on his own. In this way, technology is gradually outperforming and replacing the human based services.

6. Research Questions and Hypotheses development

In order to address the research problem, following study questions are developed:

1. What internal factors influenced the changing role between banks' workforce and digital technology during the COVID-19 pandemic?
2. What external factors influenced the changing role between banks' workforce and digital technology during the COVID-19 pandemic??

Based on the research questions following hypotheses are developed:
H_1: There is a correlation between the internal controlling factors of digitization in the banking sector and human resources roles during the COVID -19 pandemic.
H_2: There is a correlation between the external controlling factors of digitization in the banking sector and human resources roles during the COVID -19 pandemic.

5. Methodology

The present research relies on the quantitative research approach. The study was conducted by the random distribution of questionnaires to collect the data from the target respondents. The data was collected through email communication and WhatsApp using Google forms. The main goal is to investigate and compare the work efficiency of bank workforce with the digital technology adopted by the UAE commercial banks during the COVID-19. Top 10 banks were selected using the secondary data information obtained from the website of central bank of UAE. Data is collected from the respondents of 45 bank branches of top 10 commercial banks situated in the emirates of Abu Dhabi, Dubai and Sharjah.

Accordingly, two factors were used for the comparison between roles, the internal factors (such as cost efficiency, demand for service availability without breakdown time, easy access to data without obstacles, unlimited service coverage, technological developments, and ease of preparation Reports) and external factors (such as the regulation of the central bank regarding the use of banking technology in digital issuance, the emergence of (Fintech) financial technology companies, market demand related to e-commerce transactions, and competition in the banking industry to provide the best customer service).

5.1 Data Collection

In order to check the reliability and validity of the data, the researcher prepared a questionnaire performing a pilot test with 45 samples from the respondents. Based on the pilot study results the researcher modified the questionnaire according to the suggestions submitted by the respondents and experts in this field. The researcher also conducted the Cronbach's alpha test to verify the reliability of the questionnaire, and all variables recorded more than (0.8) indicating the reliability of the questionnaire. Internal consistency ensures that test-related factors to assess case study are identical and things are related to each other **(Tavakol and Dennick 2011)**. The researcher conducted a full scale research and collected the data by distributing questionnaire among employees and managers who were currently working with selected banks. Based on survey system and study quantitative approach the suitable sample size was (225), the questionnaire has been distributed randomly in the different departments of each bank branch .Further, the five-point Likert scale, has been generated to collect data ranging from 1= strongly disagree to 5= strongly agree. The Table 1 shows an estimate of consistency with the help of Cronbach's alpha test.

Table 1. Cronbach's Alpha

Variables	Cronbach's alpha
Cost efficiency.	.860
Demand for service availability without down time.	.893
Ease of access to data without obstacles.	.835
Unlimited service coverage.	.837
Ease of reporting.	.867
Technological developments.	.901
The regulation of the central bank related to the use of banking technology towards the digital issuance.	.803

The emergence of Fintech financial technology companies.	.845
Market demand related to e-commerce transactions.	.825
Competition in the banking industry to provide the best service to customers.	.835

Interpretation of table 1.

All variables recorded the value of Cronbach's alpha more than the threshold of 0.7 indicating the reliability of the questionnaire.

5.2 Research Variable

Two variables have been studied, namely: the role of employees (HR) and digital technology devices (as a consequence of COVID-19). These two variables will be compared by looking at available data in this field and figuring out which one is more dominant now. Employees (human resources) in banks are one of the elements that work to perform their role using banking applications in order to achieve the goals of the bank, while technological devices are tools / programs / systems and devices used by banks to help achieve their goals. These variables share a tangible share in the success of banking in achieving its goals, but with the development of digital technology, human activities can be simplified through digital technology especially in the pandemic situation, and on the other hand some customers still reject advanced technology, so they prefer to deal with the human field (e-CRM and financial systems) **(Abu-Shanah and Anagreh 2015)**.

6. Data Analysis and Interpretation

The researcher analyzed the collected data to see if the role of digital technology dominates replacing the roles of human resources in the banking world. The data and explanation are given below:

Table 2. Gender of Sample Respondents

Gender	Number of respondents	Percentage
Male	155	68.90
Female	70	31.10
Total	225	100

Interpretation of table 2.

Table 2 illustrates the gender based classification of respondents. It can be seen from the table that 68.9% of the respondents were male and 31.1% female. It clearly shows that male respondents outperform female.

Table 3. Age Group of Sample Respondents

Age group	No. of respondents	Percentage
18-30	85	38
31-40	70	31
41-50	45	20
Above 50	25	11

Total	225	100

Interpretation of table 3.

Table 3 shows that 38 percent of respondents fall between the age group 18-30 years, while 31 percent of respondents are in the age group 31-40 years, and 20 percent of respondents are between 41-50 years old; while the remaining percent of respondents are over 50 years old. These aforementioned results show that the younger generation is bank conscious and has an open bank account. In this part of the country, young people usually work at the age of 21-30. It is an accepted fact that the generation younger than 40 represents the majority of the bank's customers.

Table 4. Internal Factors

Factors	Number of respondents	percentage
Cost efficiency	60	26
Demand for service without breakdown time	20	9
Ease of access to data without obstacles	10	4
Unlimited service coverage	30	14
Ease of reporting	10	4
Technological development	95	43
Total	225	100

Interpretation of table 4.

Table 4 reveals that 43% of the factors that influence changing roles between human resources and digital technology in the banking sector are related to technological development, 26% for cost efficiency, 14% for unlimited service coverage, and 9% for non-stop service demand. While 4 per cent of respondents stated that the ease of accessing data without obstacles and ease of reporting affect the dominance of one of the two variables over the other.

Table 5. External Factors

Factors	Number of respondent	Percentage
The regulation of the central bank related to the use of banking technology towards the digital issuance	85	37.80
The emergence of Fintech financial-technology companies	65	28.88
Market demand related to e-commerce transactions	50	22.22
Competition in the banking industry to provide the best service to customers	25	11.11
Total	225	100

Interpretation of table 5.

Table 5 expresses the external factors that influence changing roles between human resources and digital technology in the banking sector. Where it was found that 37.80 percent of respondents believe that the central bank's controls regarding the use of digital technology in banks were the main factor in the domination of one of the two variables over the other. While 13 percent of respondents mentioned the emergence of financial technology companies as the second factor with 28.88 percent. While 22.22 per cent attributed the change in roles to the market demand related to e-commerce transactions, 11.11 per cent mentioned competition in the banking sector to provide the best customer service as external factors causing change in roles.

6.1 Regression Analysis

Regression Analysis is a statistical technique to identify the relationship between variables. Here, the study analyzes the role of internal and external factors in the relationship between digital banking adoption and human resource roles' participation in the banking operations.

Table 6 (a). Regression Analysis

Statistic Regression	Values
R	0.9897
R Square	0.9795
Adjusted R Square	0.9487
Standard Error	1.4142
Observations (Banks)	11

Interpretation of table 6 (a).

Table 6 (a) shows results for summary output of internal factors that control the relationship between digital banking adoption and human resources participation in banking operations however, Table 8 reports results for summary statistics output for internal factors. Once linear model is fitted for regression analysis, it is needed to determine fitness of data for the model. Multiple R, R square, and adjusted R square quantify quality of the model.

Value of multiple R shows linear relationship between the variables. It ranges in between 0 to 1 by indicating no relationship to strong positive relationship. The value of 0.9897 is close to 1, quantify positive association among the variables. Whereas, R Square shows the variation in human resource participation is (97%) explained by digital baking adoption by controlling internal factors. The value of adjusted R Square and R Square is close, identifies that generalization of model is good. Moreover, value of standard error is a bit high. The study has used 11 largest banks in Ajman, United Arab Emirates.

Table 6 (b). ANOVA of Internal Factors

	df	SS	MS	F	Significance F
Regression	6	382	63.6667	31.8333	0.0025
Residual	4	8	2		
Total	10	390			

Interpretation of table 6 (b).

Table 6 (b) shows results for ANOVA of Internal factors that control the relationship between digital banking adoption and human resources participation in banking operations.

ANOVA stands for analysis of variance. The statistics of interest is the F-value, together with associate p-value. Here p-value is statistically significant at 5% level of significance, that shows that the impact of digital banking adoption (controlled by internal factors) on human resources participation in banking operations is statistically significant. So the H_1 is accepted. There is a correlation between the controlling internal factors of digitization in the banking industry and the roles of human resources.

Table 6 (c). Coefficients of Internal Factors

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%
Intercept	-1	3.1623	-0.3162	0.7676	-9.7799	7.7799	-9.7799
Cost Efficiency (CE)	6	3.2404	1.8516	0.1377	-2.9967	14.9967	-2.9967
Demand for services (S)	8	2.6458	3.0237	0.0390	0.6542	15.3458	0.6542
Ease of Access to data (AD)	-10	3.4641	-2.8868	0.0447	-19.6179	-0.3821	-19.6179
unlimited service coverage (SC)	-3	2.3452	-1.2792	0.2700	-9.5113	3.5113	-9.5113
ease of reporting (R)	7	2.3452	2.9848	0.0405	0.4887	13.5113	0.4887
Technological development (TD)	5	2	2.5	0.0668	-0.5529	10.5529	-0.5529

$$\text{Degree of HR Participation} = \beta_0 + \beta_1 CE + \beta_2 S + \beta_3 AD + \beta_4 SC + \beta_4 R + \beta_4 TD$$

$$\text{Dergree of HR Participation} = -1 + 6CE + 8S - 10\,AD - 3SC + 7R + 5TD$$

Interpretation of table 6 (c).

Table 6 (c) shows results for intercept and coefficients of internal factors that control the relationship between digital banking adoption and human resources participation in banking operations. The above results show that AD and SC are negative contributing factors, while others are positive internal contributing factors for degree of HR participation.

Table 7 (a). Regression Analysis of External Factors

Statistic Regression	Values
R	0.7658
R Square	0.5865
Adjusted R Square	0.3108
Standard Error	5.1846
Observations (Banks)	11

Interpretation of table 7 (a).

Table 7 (a) shows results for summary output of External factors that control the relationship between digital banking adoption and human resources participation in banking operations The value of multiple R in table 9 shows a linear relationship between the variables with 0.7658 which means that there is a positive association among the variables. Whereas, R Square shows the variation in human resource participation is 59% explained by digital banking adoption by controlling external factors. The value of adjusted R Square and R Square is not close, identifies that generalization of model is statistically insignificant. Moreover, value of standard error is high. The study has used 11 largest banks in Ajman, United Arab Emirates.

Table 7 (b). ANOVA of External Factors

	df	SS	MS	F	Significance F
Regression	4	228.72	57.18	2.1272	0.1951
Residual	6	161.28	26.88		
Total	10	390			

Interpretation of table 7 (b).

Table 7 (b) shows results for ANOVA of External factors that control the relationship between digital banking adoption and human resources participation in banking operations. Here p-value is statistically insignificant, that shows that the impact of digital banking adoption (controlled by internal factors) on human resources participation in banking operations is statistically insignificant. Thus, we fail to accept H2 since the correlation between digital banking adoptions by controlling external factors is statically insignificant **(Karam and Kitana 2018)**.

Table 7 (c). Coefficients of External Factors

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%
Intercept	8.6	6.6933	1.2849	0.2462	-7.7779	24.9779	-7.7779
Emergence of Fintech Companies (Fintec)	5	4.2332	1.1811	0.2822	-5.3583	15.3583	-5.3583
Market demand of E-commerce (Ecom)	-2.96	7.2337	-0.4092	0.6966	-20.6602	14.7402	-20.6602
Competition in the banking industry (Com)	6.84	3.5920	1.9042	0.1055	-1.9493	15.6293	-1.9493
Regulation of Central Bank (Reg)	-0.6	4.2332	-0.1417	0.8919	-10.9583	9.7583	-10.9583

$$\text{Degree of HR Participation} = \beta_0 + \beta_1 \text{Fintec} + \beta_2 \text{Ecom} + \beta_3 \text{com} + \beta_4 \text{Reg}$$

$$\text{Dergree of HR Participation} = 8.6 + 5\ \text{Fintec} - 2.96\ \text{Ecom} + 6.84\ \text{Com} - 0.6\ \text{Reg}$$

Interpretation of table 7 (c).

Table 7 (c) shows results for intercept and coefficients of external factors that control the relationship between digital banking adoption and human resources participation in banking operations. The above results show that Ecom and Reg are negative contributing external factors while, all others are positive external contributing factors for degree of HR participation. So, the impact of digital banking adoption (controlled by external factors) on human resources participation in banking operations is statistically insignificant.

7. Discussions

Relying on the data collected from target groups confirmed concern about the dominance of the digital banking (DB) as the revolution of Artificial intelligence (AI) on the role of human resource in the banking sector to a large extent especially in the operation department. Specifically, the perceived usefulness of digital banking reported a stronger impact with (98.97%) than the attitude towards the human resource roles, as per (Table 8) internal factors, this implies that banks can take advantage of technological advances to enhance the usefulness of their services, focusing on promoting the development of their digital banking services. Therefore, the transfer, clearance, payment and retailing in general. Thus, this will increase the demand for qualified personnel from different disciplines who are able to make optimal use of information technology. Technology is now looking at how to make invisible objects visible by providing an actual view of their work. Where the application of artificial intelligence-based technology supports human governance as complementary and contextual knowledge to obtain a better proposal than the machine or person alone works. Perhaps this is the biggest challenge for all financial institutions including banks in next generation. Bankers should seriously consider redesigning and renewing different businesses to combine the different capabilities of machines and people through purposeful and advanced careers. Hence, support employees by providing an educational environment to adapt to rapidly changing circumstances. This study contributes to both IT and finance research by proving findings from an investigation of the elements modifying the DB adoption in the era of the pandemic and how that adoption might impact the rate of human resources and customer's satisfactions, with implications for bankers and financiers, stakeholders, stockholders and officials to consider in the process of DB adoption. So enterprises must redesign the work environment along with work procedures to support the implementation of this new technology noting that remarkable efforts have been shown of restructuring the existing environment for banks to make them more enjoyable and keep pace with new technology.

8. Conclusion

Results of data observations indicate that the role of digital technology controls the degree of human roles in the banking world especially in the business operations. Correlation coefficient data for the effect of internal factors on the role of human resources in the banking sector presented in Table 7 (a) shows a very strong correlation between the two variables by 0.96. The results of the regression analysis also show that the ease of access to data and unlimited data coverage adversely affects the change in the role of human resources in banks. This means that increasing the services provided to customers electronically and their ease of access lead to the abolition of their functions in the banks, while other internal factors have had a positive impact on the role of human resources. On the other hand, the correlation coefficient data on the influence of external factors on the role of human resources in the banking sector mentioned in Table 8 (a) indicates that there is also a strong correlation between the two variables by 0.76. The results of the regression analysis also show that the market demand of E-commerce and the central bank regulations adversely affect the changing role of human resources in banks, while other external factors have had a positive impact on the role of human resources. Moreover, modern technology has already enhanced the work efficiency through the invention of robotics in all fields of business and industry. These high-tech and artificial intelligent machines are about to replace human services. These robots can support the services provided by human resources in a bank. There are many areas where the human mind needs to make decisions. The bank's business is mainly concerned with studying the customer needs. There are many human needs to consider when doing business in banks. Robots can support entire operations by making difficult tasks easy by like what we are currently see on the Internet banking services that provide transfers, payment of bills, clearance, issuance of check books and other services that do not need to deal with the human element. At the same time, we find that bank customers do not trust digital technology and robots in dealing with their banking problems due to errors in the account balance, theft or loss of their credit cards, loans and other complaints. This necessitates the need to probe the case and conduct in depth research to investigate an appropriate balance between the use of IT and the human efforts.

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