



Robotics Process Automation (RPA) and Project Risk Management

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ABSTRACT

The Robotics process is a technological software program to improve digital technology systems. The robotic process identifies the factors to process data in a digital security system to mitigate risk in managing projects. Etisalat is a renowned company that successfully utilizes a robotic process in their service, and they are the pioneer in using the robotic system in UAE. By adopting the process, they have facilitated the digital model development objective of UAE through VISION 2021.

Digital transformation in project management is analyzed to change adaptability and shift of cultural processes both in adopting new technologies and project management. The robotic process also helps Etisalat to secure the position of the 4th strongest brand in the world. Technological innovation changes the system of network channels. The company implemented Pega centralized decision engine through the robotic system for implementing the best-personalized action and to address the gap in professional communication. The software robots used by the company support to make the back-office task 70% faster than before with accuracy. The robotic process enhances telecommunication systems and also develops the industry related to telecommunication. Technology adaptation through the introduction of an RPA system improves customer experience and serves excellence to get revolutionized with AI. Society also gets accustomed to using technology for fun.

1. INTRODUCTION

The Robotics process management is a software technology process that makes it easy to evaluate human-robot actions to interact with digital technology systems (Ribeiro et al., 2021). Robotic process automation understands a data action process that is identified as a risk management project.

Risk management can help Robotics process automation to identify prime areas where robots can increase accuracy (van der Aalst et al., 2018). Robotic process automation is an executive structure that is based on a task by taking action on

an existing human-robot system process (A. Al-Marroof et al., 2021; Aloini et al., 2007). Robotic process automation in risk management can reduce risks by increasing compliance and decreasing errors. Risk management can expose customers' data for Robotics process automation (Baryannis et al., 2019).

Digital Disruption to project management deals with aggressive action and identifies an alternative market opportunity (Al-Dmour et al., 2023; Al-Kassem et al., 2022; Fosso Wamba et al., 2020; Khan et al., 2022). Project managers consider that

they are executing specific project disruptions on project management using robotic processes. Digital Disruption can lead a digital innovation to bring device movement to project management; it is healthier for overall company management (Madakam et al., 2019). During a Digital Transformation that is required to change adaptability and shift cultural processes, both new technologies are Project management. Digital Transformation journey access the current capabilities of project management (Muhammad Turki Alshurideh et al., 2023b, 2023c; Annarelli and Palombi, 2021; Kassem and Martinez, 2022).

1.1. Digital Transformation to Project

Management digital challenges are frequently to better understand the marketplace and across intelligence data sharing processes (Aljumah et al., 2023; Eikebrokk and Olsen, 2020). Robotic process automation makes data analysis more accurate than any other data entry process (H. M. Alzoubi et al., 2022e, 2022a)(I. Akour et al., 2022; Hani Al-Kassem, 2021). The Robotic process backed up by an AI software system can reduce human error, which is essential for the project study, but another system cannot do it better and more easily than the Robotic system (Ivančić et al., 2019). Robotic mechanisms empower Etisalat to provide digital solutions, cloud talk, meeting platforms, business edge, telemedicine platforms etc., to their customers (Alzoubi et al., 2019; Marnewick and Labuschagne, 2009).

2. LITERATURE REVIEW

2.1. Impact of robotic process on telecommunication

As per (T M Ghazal et al., 2023c) the robotic process plays an important role in effective telecommunication systems and covers a huge market share in the Middle East and Africa.

2.2. Market covering the Middle East and Africa, it is the 4th strongest brand in the world

The robotic process also helps Etisalat to secure the position of the 4th strongest brand in the world. (Ahmed and Nabeel Al Amiri, 2022; Al-Kassem, 2017; M. T. Alshurideh et al., 2022b; H. M. Alzoubi et al., 2022d) says that, technological innovation changes the system of network channels (Al-Awamleh et al., 2022; H. M. Alzoubi et al., 2022h; Sakkthivel et al., 2022). Previously, network channels had faced the problem of disconnection

randomly, and for this reason selling process of Etisalat got interrupted (M. Alshurideh et al., 2022; El Khatib, 2015; T M Ghazal et al., 2023b). Etisalat maintained a previously solo data system, which could not address the communication gap (M. El Khatib et al., 2022a), and it seemed difficult to identify products which were not suited for individual needs (Al-Kassem, 2014; H. Alzoubi et al., 2020; Amiri et al., 2020). To remove this hurdle, the company implemented Pega centralized decision engine through the robotic system for implementing the best-personalized action (Abudaqa et al., 2022; H. M. Alzoubi et al., 2022b).

2.3. Pricing of new models to support the freedom lines

The robotic process, according to (M. El Khatib et al., 2021; Nuseir, 2021) made a revolution in customer service with the introduction of AI technology. Etisalat has introduced a new pricing policy for their new model of robotic service process to support the customer base and their freedom line (Al-Kassem et al., 2013; R. S. Al-Marroof et al., 2021b; H. Alzoubi et al., 2022; El Khatib et al., 2021; Nuseir and Aljumah, 2020). To influence customers through their new pricing models, the company has given unique offers to customers, like buying e-life (television services) online by saving AED199 (R. S. Al-Marroof et al., 2021a; Bawaneh et al., 2023). They also have offered free 1GB of data to the customers for opting first online research system (Taher M. Ghazal et al., 2023)(H. M. Alzoubi et al., 2022c; Mat Som and Kassem, 2013).

2.4. Delivery with efficiency using various software

Through this new mechanism, the service delivery of Etisalat becomes efficient (Aityassine et al., 2022; H. M. Alzoubi et al., 2022f; M. El Khatib et al., 2022b). Other Robotic mechanisms offered by Etisalate are digital solutions, cloud talk, meeting platforms, business edge, telemedicine platforms etc (Al-Kassem et al., 2012; Aljumah et al., 2021a; El Khatib and Ahmed, 2020; Nuseir, 2020).

2.5. Technology Opening of RPA centre of excellence to revolutionize customer experience with AI

For using various software, they have opened RPA centres for the improvement of service speed and efficiency in service delivery (Akour et al., 2021; I. A. Akour et al., 2022). (AlDhaheri et al., 2023; El

Khatib et al., 2019) said that, the software robots used by the company support to make the back-office task 70% faster than before with accuracy (H. M. Alzoubi et al., 2020; El Khatib and Ahmed, 2018; Varma et al., 2023).

2.6. Invention to provide a digital future

They have introduced Malaffi software to include a cloud mechanism in the smiles app and smart stores (Almasaeid et al., 2022). The company wants to make a revolution in providing the best customer experience by using robotic processes backed up with AI processes (M Alshurideh et al., 2023; Lee et al., 2023)(H. M. Alzoubi et al., 2022i; El Khatib et al., 2020a)

2.7. Design for achieving the targets

This initiative is also meant to make a revolutionary change in UAE. Through the initiative of technological innovation, Etisalat helps UAE to drive towards digitization in the future through the project vision-2021 (Ahmad Ibrahim Aljumah et al., 2022b; Blooshi et al., 2023; M T Nuseir et al., 2022a). The company launched six RPA robots in 2021. To facilitate the objective presently, they are operating with 76 robots to perform 745000 transactions in order to ensure management care and to influence back-office functions (Alshurideh et al., 2017)(Aljumah et al., 2020; Ahmad Ibrahim Aljumah et al., 2022a; Tariq et al., 2022a).

2.8. Usage of the 5G mobile and broadband service

Attaran opined that the robotic process can make the operational function simple and speedy and make technology accessible to everyone with fun (Akour et al., 2023; Al-Marroof et al., 2022b). The impact of robotic process can be seen on usage of the 5G mobile and broadband service in modern society (AlHamad et al., 2021; Ghazal et al., 2021; Yasir et al., 2022)(Tariq et al., 2022b).

2.9. The industry is related to telecommunication

This process can make a funny user experience which keeps them more engaged in using technology (A I Aljumah et al., 2022a; El Khatib et al., 2020b). The target of Etisalat is to meet the purpose of deploying robots in a productive way to increase customer satisfaction and improve the working condition of the company by making possible the reduction of FTE and LHT (Gaytan et al., 2023; Gulseven and Ahmed, 2022).

2.10. Standard maintaining AI service

Radke opined in 2020 that technology innovation backed up by AI technology can reduce waiting time and save working hours (Abudaqa et al., 2021; Alzoubi and Ahmed, 2019; Louzi et al., 2022a). It definitely can improve industry to telecommunication in a moderate and standard way and data protection system under the legislation (Ahmed et al., 2022; El Khatib and Ahmed, 2019)(Khatib and Opulencia, 2015; Mubeen et al., 2022; Nuseir and Aljumah, 2022).

2.11. The process to reduce the errors

As the data gets secured with the robotic process, errors can be reduced, which can ensure data security (Khatib et al., 2022; E. Khatib et al., 2021). The company is using AI for better customer experience and giving empathy (Louzi et al., 2022b).

2.11. Methods using AI technology

Thus a positive change has occurred in society, and Etisalat has used that procedure for its own development as well as to encourage the technological development of the UAE (Blooshi et al., 2023; Farrukh et al., 2023; T M Ghazal et al., 2023a). AI is in the process of continuous evolution and continuous change to ensure sustainable customer service in UAE (Muhammad Alshurideh et al., 2023).

- *Society using the technology*

The AI-based robotic process prepares society to use technology.

- *Culture in the young generations*

The culture of the young generation gets influenced due to close intimacy with social media like Twitter, Facebook and Instagram. Technology makes them more open towards the world (M. T. Alshurideh et al., 2022c).

- *Habits of people*

Technology changes the habit of a new generation. Social media acts as an ecosystem which is popularly known as viral (Muhammad Turki Alshurideh et al., 2023a; Nuseir and Elrefae, 2022).

- *Movements that lead the influencers*

Du also launched its RPA and hiring for developers. The company also launched several autonomous networks with CAI and WAE (Al-Marroof et al., 2022a; H. M. Alzoubi et al., 2022g).

3. RESEARCH METHODOLOGY

The research methodology usually refers to the different strategies and approaches that is used by your research in order to justify the research objectives and for testing the hypothesis. For this research a qualitative approach has been adopted that deals with collection of data through open-ended questions the study has also employed a deductive research approach in order to test the existing theory. In regards to this a survey questionnaire with a sample size of 20 was created and responses were created from different working employees of Etisalat.

Collection of both primary and secondary data has been collected and the responses gathered have helped Tim testing the hypothesis in order to fulfill their research objectives the secondary data was collected by conducting a literature review approach wherein information was collected from different platforms and journal articles across the telecommunications sector of UAE.

4. DATA ANALYSIS

1. What is your age group?

20 responses

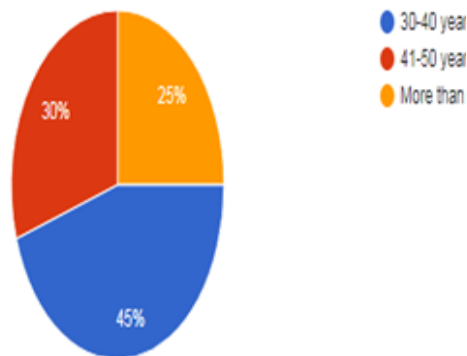


Figure 1: Demographic

The majority, or 45%, of the respondents, is from the age group of 30-40 years, and another 30% of the respondents are from the age group of 41-50 years. Thus most of the responses have come from some individuals who are at least 30 years of age and are expected to have substantial experience in the relevant field.

2. What is your gender?

20 responses

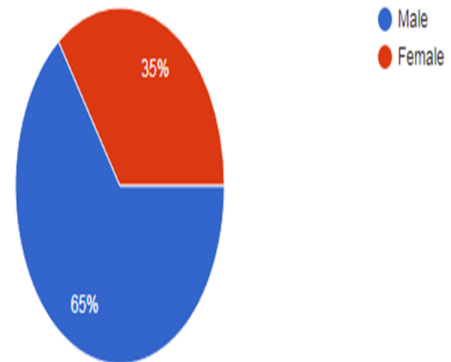


Figure 2: Demographic Gender Details

The respondents have been dominated by male respondents as 65% of the respondents are male, and the rest are female.

What is your relevant experience in the field of RPA (Robotics process automation)?

responses

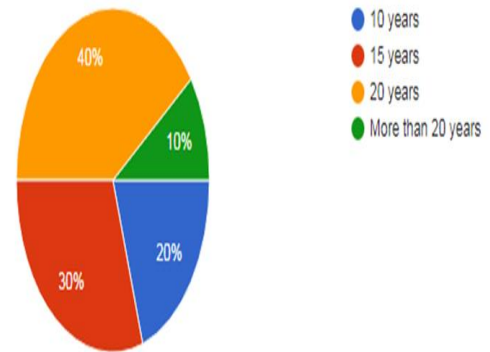


Figure 3: Respondents Experience

20% of the respondents are of the opinion that they have 10 years of experience in the field of RPA. Again another 30% are saying that they have 15 years of relevant experience, and the majority 40% are defining that they have 20 years of relevant experience in the field of RPA. Thus the respondents are having long years of relevant experience, where the minimum years of experience of the respondents are 10 years. Therefore the respondents are supposed to have substantial experience in delivering detailed,

reliable information (Aljumah et al., 2023).

4. Do you think that implementation of RPA in project completion will increase risk?

20 responses

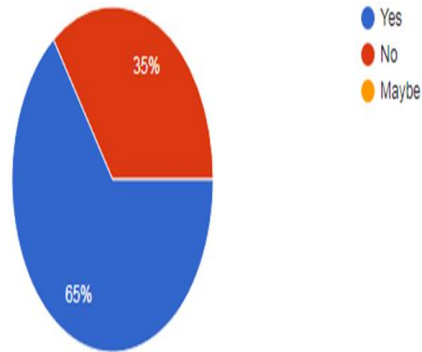


Figure 4 : Implementation of RPA

65% of the respondents are defining the fact that it is quite risky to implement RPA in the process of project completion as the wrong implementation of RPA to the project can bring disaster.

5. Do you think that selecting a wrong part of the project for automation v the risk of the project?

20 responses

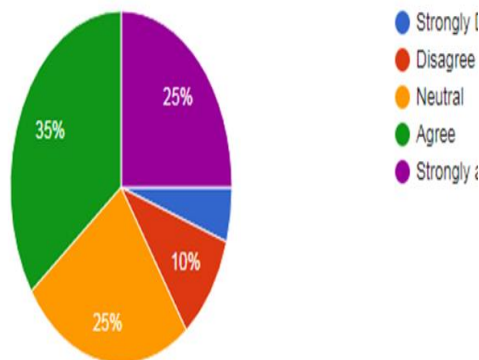


Figure 5 : Automation in Project Risk Management

35% of the respondents are of the opinion that selecting the wrong part of the project for automation enhances the risk of project failure as the whole operation of the project will be carried out in a wrong way with the lack of synchronization in time management between the automated work

and human work (Muhammad Turki Alshurideh et al., 2023b; Nadzri et al., 2023).

The majority of the respondents are of the opinion that for successful implementation of RPA in the completion of the project, it is essentially required to properly choose the part of the project work that has to be automated. Generally, the most complicated and time-consuming parts of the project are supposed to automate using RPA, and the less complicated and time-consuming are supposed to be left for human operation (Aziz et al., 2023). However, if the less complicated portion of the project is being automated, then there will be a lack of synchronization between the outcome of the automated arts and that of the manual or part, and therefore the project is supposed to incur more time and cost for completion in comparison to the situation where the right part or the complicated operation of the project has been successfully automated.

6. Is it risky to develop the sharing framework of RPA by multiple divisions when multiple divisions are working together to complete the project

20 responses

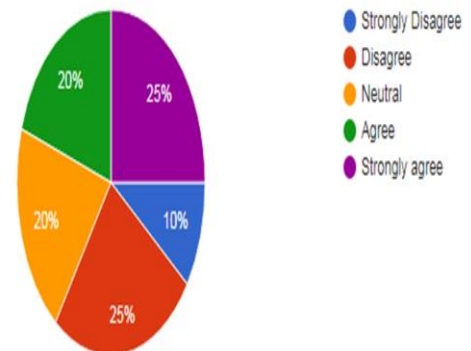


Figure 6 : Sharing Framework of RPA

20% of the respondents agree with the fact that implementation of RPA is more difficult and risky when it has to be implemented in a network of several departments that are working together for the completion of the project. Another 25% strongly agree with the fact.

However, it is not worth mentioning that 35% (10% strongly disagree & 25% disagree) do not at all support the opinion.

The survey responses come up with a crucial fact regarding the implementation of the RPA in an

environment of departmental collaboration where there is a strong opinion that it is very risky to implement RPA for project completion when several departments are participating in the process as in such a situation the successful completion of the project entails that there must be a strong understanding among the departments regarding how they will share the automated part of the project for the completion of the share of the task that has been allotted to that department. Any lack of understanding and synchronization between the departments can make the whole project fall apart due to the mishandling of the RPA technology.

However, another group of respondents are not supporting the opinion, and they are of the opinion that the application of a little efficiency and good understanding can lead to the successful implementation of RPA in the multi-handler project. The most crucial requirement is that there should be regular communication and coordination between the departments with respect to the precise time frame that will be used for utilizing the automated operation by each of the departments and such activities will definitely lead to the successful implementation of RPA for project completion in a multidepartmental framework

7. Is the process of robotic configuration and testing the robot is highly risky as w configuration can affect project process?

20 responses

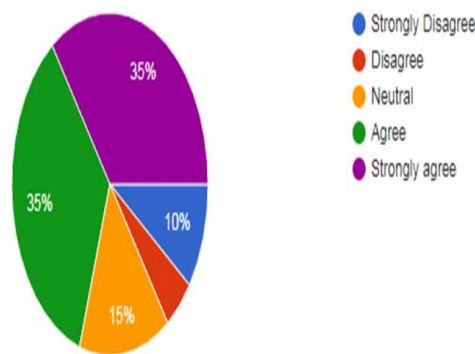


Figure 8 : Process of Robotic Configuration

35% of the respondents agree, and another 35% strongly agree that if the wrong configuration is being set with the robot, then the whole process of the automatic project completion may go in vain (Mohammed T. Nuseir et al., 2022).

The wrong configuration of the robotic machine is probably the biggest risk that a project manager may face while dealing with the implementation of RPA in a project process (A I Aljumah et al., 2022b). Due to the wrong configuration, the automated action by the robot will not be able to deliver the required quality of work and the whole performance of the project is supposed to decline drastically. A wrong configuration in the robotic system may result in the development of poor-quality products and thus leads to project failure and loss of reputation for the business organization.

8. Is it difficult to select a person in command of the whole RPA system who is familiar with the operation of all the departments?

20 responses

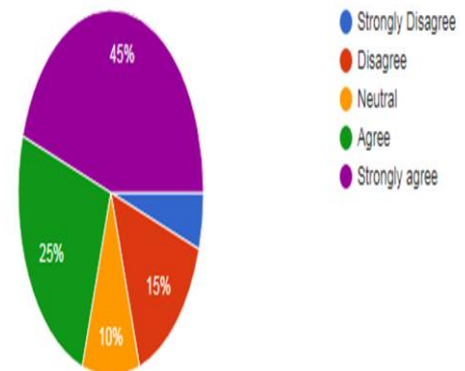


Figure 9 : RPA System Command

45% of the respondents strongly opined in support of the fact that it is quite difficult to employ a person in the commanding position who has knowledge about all the departments in the organization, especially when the RPA system has to be entered into a working situation where several departments are working together for the completion of the project and is supposed to share the RPA system (M. T. Alshurideh et al., 2022a; Nuseira and Aljumahb, 2020).

One of the crucial revelations of the survey is that apart from the wrong configuration, one of the significant risks in the process of implementing RPA can be identified as the getting a proper person to regulate and overview the whole process or mechanism in an efficient way. In other words, the application of the RPA system for project management can go wrong if there is no person to

decide which department is when supposed to access the RPA system and what should be the time limit that should be set for the application of the RPA system by each different units engaged in project completion to ensure systematic and synchronized working.

9. Is it highly risky to ensure cyber security and data privacy while implementing automation?

20 responses

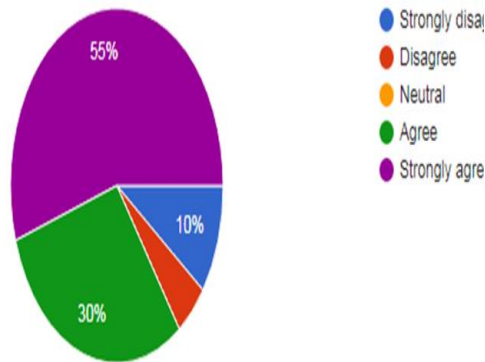


Figure 10 : High Risk to Ensure cyber Security

55% strongly agree and 30% of the respondents agree with the fact that it is very difficult to maintain data privacy in an RPA system and therefore is enhancing the risk associated with the use of the RPA system for project automation (Arshad et al., 2023).

In most common cases in case of large projects several internal departments and sometimes some external expertise works for the completion of the project and therefore there arise a huge scope of sharing project data by multiple parties when multiple parties are sharing the RPA system. Therefore if without proper measures being taken for ensuring the cyber security then application of an RPA in an environment of multiparty project management may appear as a disaster (Alshawabkeh et al., 2021; M T Nuseir et al., 2022b).

10. To what extent a project process can be affected if the RPA suddenly break down in terms of aligning the resources in a completely new way (required for manual operation)?

20 responses

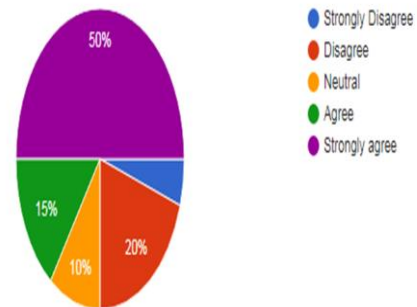


Figure 11 : Project Process during RPA breakdown

50% of the respondents are of the strong opinion that if the RPA process breaks down, then the progress of the project may get completely stopped if the project resources are to be arranged in a completely new way for carrying out the project operations manually. Another 15% of the respondents completely agree with the fact.

However, to what extent the project progress will be affected due to the breakdown of the RPA system depends upon the need of the alignment of the resources while shifting from the automated mode to the manual mode (Aljumah et al., 2021b).

STEP 1: Create a list of top 10 digital transformations in your industry and then do a SWOT analysis of your industry or organization.

This part will discuss top key digital transformation which is: Distract the network elements that are automatically managed to communicate virtualised infrastructure (Fan et al., 2015; Nuseir et al., 2020). Specific product security to reactive becomes a central transformation in anticipation and Limited data exploitation development approach for analyzing the collecting data. Also, close management system delivers to access open platform architecture. While, a limited portfolio of traditional services is expanded to offer new digital services as well as managing limited suppliers that are existing in a vibrant ecosystem in the digital economy (Nuseir et al., 2021). The business model is set to multiple business models to optimize the value of new business models. Where digital telecommunication organization is a

digital culture organization. The last key, is to focus on the traditional channels that are adapted to the multiple channels in a market and dimensional customer relationship management of the customer experience .

5. DISCUSSION

5.1. SWOT analysis

- *Strength:*

The telecommunications company has excellent customer service to boost its industry resource capabilities. Their customer services sales are attributes that enhance this industry to their competitive advantages (Ullah, 2019). The telecommunication industry has high tech technology that can help to increase their business. Fiber-optics technology is the most powerful technology for their industry.

- *Weakness:*

Telecommunication companies offer better services that will switch to angry customers. Telecommunication services are not replaced and their services are very slow in the marketplace (Zarca, 2020). Slow services can hurt their customers in a competitive marketplace.

- *Opportunities:*

Telecommunication has new technology for their customers that increases customers' interest to help this industry (Chen, 2021). The telecommunication industry has a big marketplace for its customers to keep rapidly adopting new technology. Their marketplace was especially introduced to speed up their services.

- *Threats:*

The telecommunication industry's economical condition threatens this industry that creates to the company's future success. Government regulation against the telecommunication company to increases their business industry. The telecommunication company offers their customers the same new features which is an external threat for this company.

STEP 2: Create a list of top 10 digital initiatives by digital native disruptors most relevant to your organization and or industry.

The top keys initiative used are: Automatically managed to communicate virtualized infrastructure that distracts the network elements in anticipation of specific product security reactive become a central transformation. The collecting

data-limited exploitation development approach for analyzing developmental management and use the Open platform architecture to access a close management system delivers. New digital services of traditional services are expanded to offer a limited portfolio while, Limited suppliers that are existing in a vibrant ecosystem in the digital economy is to manage the systems. Business model is set to multiple business models to optimize the value of new business models. At the end of key point, digital telecommunication organisation is a digital culture organisation. To the multiple channels in a market focus on the traditional channels that are adapted and Dimensional customer relationship management of the customer experience.

The key digital transformation initiatives taken by Etisalat are the automatically managed virtual infrastructure that distracts the network element. Anticipation of specific product security to became the center of transformation. The limited exploitation of data development and its management is huge. The suppliers are limited in the existing and vibrant ecosystem. The focuses on traditional channels are adapted as well. Digital telecommunication has a digital cultural organization in the dimension of customer relationship experience.

STEP 3: Create a list of the top three digital disruptions across all four elements – business, technology, industry, and society – most relevant to your organization and/or industry.

In Business: the impact of the element relevant in Business telecommunications for employees make it possible to accomplish the company work. also, Digital disruptors in telecommunication companies will have long term business with the next generation business increasing process. The Telecommunication companies despite increasing their business demand for new technology and changing the customer preference that is forcing community company operators to adopt a new business model.

- *In Technology:*

Digital disruptor technology system replaces habits though attributes are recognized the superior. The largest video services by the telecommunication company to advertising largest business that leading to the global requirement business. Digital disruptors in telecommunication

technology causes are economic and social changes that are generated by many circumstances together. Telecommunication companies' technologies are 5G networks and the internet of things. This company's technologies are widely used in data mining and forecasting.

- *In Industry:*

A telecommunication system consists of a receiver that receives the signal back into useful information. A transmitter that takes to a signal transmission that carries the signal information and the technology in the telecommunication industry has seen primarily related to changing business to being able to adapt to the technology industry

- *In Society:*

The scope of communication that is enabled the people to enhance to stay their organization in Contributing good communication information in new technologies. Telecommunication technology keeps to more aware of their environment and the government's push up to be more accountably and encourage the efficient system to more participation.

STEP 4: Create a list of the top three digital initiatives by your competitors.

First Competitor is ATCOM: ATCOM technology has great technology as a companion, especially for an event. ATCOM guest's technology is fascinating to the installation awaited on the innovative launch of their technology. Atcom is particularly proud of its technology responses that are significant to its positive messages. ATCOM bought a new technology that is life through an initiative to focus on the automation of featuring solutions to improve the customer experiences. ATCOM presented a technology that is envisioned by the company. ATCOM also shared the stage that gives an audience glimpse of what social media will bring forth.

Second Competitor is 3Wnetworks: The 3W network process is forced to join with Elsewedy Electric to integrate information in the future is driving the force that is connecting companies by joining their 3W networks that is a valuable business technology to their industry growth and increasing their industrial development. 3W networks have multiple sectors offering the best technology that is available in a market of technology. 3W network is a leading system

integrator whose strategic position is their ideal choice for the technology industry.

Third is Axiom Telecom: It is contextual information that provides a customer's insights that are applied to an enterprise and a software system. New suppliers identify the industry's overall digital parts to stay a competitive project. Axiom telecom has developed supplier relationship management that is related to making decisions. It is analyzed that the revenue that is aggregating massive industry data points is from the forecasting technology. Communication is an initiative undertaken by business technology. Axiom telecom technology identifies those that are being used in cloud applications.

And Last is Ooredoo: This can be planned to travel enabling staff with leave days. They look forward to seeing the continued benefits of being an initiative institution and seeing their international communication to operate the company across their technology system. This technology has been the strategic digital initiative by Ooredoo. The company's strategic plan is to advance by increasingly adapting its way of working methods. Employees are being given flexible initiative work. This technology has been initiated by Ooredoo. Ooredoo technology announced a flexible working initiative that has been pioneering for the last years.

STEP 5: List of top three digital disruptions across all the five key areas of disruption that are most relevant to the organization.

The top three digital disruptions happen after big data, the internet of things (IoT) and machine learning (ML). The factors of digital disruptions in telecommunication are economic, geopolitical, natural disasters and social changes. In order to fight these disruptions, Etisalat has transformed itself towards a digital agenda and launched a 5G network. However, the digital disruptions help in gaining the competitive markets.

The company faced disruption with the pandemic and announced it would meet its digital goals. There was a drop of .4 billion from 2019 to 2020. The chairman put forward that the performance that the company gave during the unfortunate circumstances are more than what was expected.

Understanding of the digital initiatives

The core strategy for a sustainable economy and customer satisfaction of the customers is digital

transformation. It includes cloud-based products, the development of digital channels and the adoption of an RPA system. The channels like mobile apps, customer portals and websites play an important role in the maintenance of the brand name.

The company is committed to digital innovation. This would meet the changing needs of stakeholders and meet their goals. The process involved in digital initiatives is robotic centers, Digital bots, cloud express, digital innovation centers, trade finance platforms, Cloud talk platforms, Business edge and SD-WAN. The apps like digitization of processes and product integration with new features within this transform the experiences of customers. The company uses Central Feedback Management which is a system to control the usage data and set the limit for Talk time.

It is registered that the company has achieved 300,000 registered users on its consumer mobile app and records 55,000 B to B customers. The existing stores have been transformed into smart stores to give a unique customer experience with the latest touchpoints. The number of digital stores has increased to 10 across UAE. Etisalat selected Ericsson for BSS (Business Support System) and IoT to improve traffic.

Let's look at each of the key areas of digital disruption one by one using the trend-benefit framework

The key elements of digital disruptions are email, video streaming, mobile or smartphones and online references. The digital disruptions could make a better workplace. It enables growth, and customer satisfaction. The cryptocurrency based digital banking disruption also includes the key elements of disruptions. However, there are risks involved with the growth. They are the increased use of technologies like mobile computing, cloud computing and AI.

5.2. List the top three initiatives across all five areas of digital disruption.

- *Marketing and Distribution:*

Competitor like Du are gaining power with the launch of AI for their products. The video streaming issues, data usage and remote working disruptions are some of the disruptions. The company also partnered with NICE for the CXone cloud platform for its entry into the UAE. Etisalat

joins hands with Samsung mobiles for the distribution of smartphones. It was marked with a MoU agreement.

- *Product and service:*

The company launched cloud gaming services which is an HD game directly brought to TV. The broadband services like Al Shamil and eLife became popular. The eLife service offers unlimited data usage with superfast download. Etisalat launched its 5G service, to manage the disruptions faced by the consumers during the pandemic (Majithia, 2020).

- *Processes:*

The plug and play issue could be solved by Linksys routers. The complaint against broadband services and internet usage is a common problem which is solved with higher connectivity cables under the sea via Sri Lanka Mumbai seaways.

- *Ecosystems:*

The IoT is committed to connecting to revolutionized the companies and making smart cities with world-class health care system. The company is committed to developing an 'Internet of Things' ecosystem inside the country. The ecosystem of telecommunication services includes the vendors and the enterprise. With the disruptions, the relationship between them is disturbed

- *Supply chains:*

The Company enhanced its supply chain strategies to shift from the isolated units. The supply chain integration has reduced cost and increased the customer service quality. In the pandemic, there was a disruption of customers buying new sims of Etisalat due to the restriction.

STEP 6: Create a list of top three transformations across the following key technologies that are most relevant to your industry.

Platforms- Etisalat has joined hands with Ericsson to improve its Business Support System in Egypt. It gives smart district platforms, digital healthcare platforms, tourism platforms, and oil gas and entertainment platforms. It also provides online marketing services like website creation, managed website solutions and online presence.

Customer Network- The customer base of Etisalat is more than 5 decades old and has a strong network of customers. In order to optimize the customer network Etisalat has deployed ADNOC Sour Gas and Union Insurance for customer

satisfaction. The customers are helped with admissions to universities, holding the companies, providing healthcare services and convenience stores.

Business Analytics and Big Data- It helps to attract millions to the ecosystem. It is also an intelligent marketing strategy. Its social media analytics solution is based on product suits. It helps to realize their opinion of the products and services. The company understands the importance of social media presence with their sentiments.

AI and machine learning- Artificial intelligence is considered a prerogative. The virtual personal assistance, maps and traffic with the GPS, online customer services (like bill payment, web solutions). Social media, search engines and the product recommendations are all that machine learning could serve to the customers.

Blockchain and IoT- It also joined with 300 cubits of Hongkong for the reduction of transactional. It gives access to the digital resources of Etisalat. It also joined with the Yitu technology of china for the development of surveillance systems. Etisalat has taken the blockchain IoT development. The programme has been named "Future Now" with Telco.

Robotic Process Automation- RPA has reduced the boring work of the back office with activities. It is used to process the high volume and route tasks like billing and new sim delivery. The software robots of the company have increased the accuracy of the job. RPA technologies use technology that could reduce the workload of data entry jobs and after-sales services.

XR- As a part of Dubai's future program, Etisalat has launched AR and VR to change the experiences in virtual. XR training creates a multisensory environment that is more interactive and engaging. Augmented reality is the extended term of virtual reality, mixed reality and augmented reality.

Edge Computing- It would help the customer with their transportation, logistics, manufacturing and oil and gas industry it gives power to Core Orchestration which is commuted with the plug and play feature. Etisalat launched 5G for edge computing with Microsoft in 2021.

Drones- Smart delivery reduces the time between the production and delivery. The company has launched triple drop drone delivery for logistics. It gives security The drones technology launched in 2019 at GITEX is the new technology used to

capture the views from anywhere.

The AI robots were there for a long but the digitization and the pandemic made their presence significant. The audience also experiences digital news bots which could be translated into several languages for single worldwide news. This reduced the workload of translators. Various companies are incorporating AI which makes the work look simple. Customer service is the top priority of any company. Around 90% of the survey showed customers opt for products with the best after-sales services. In this world, the service is given 24*7. This reduced the cost and increases service efficiency.

TAF is an automated framework having built-in features which provide solutions to some of the common problems of automation. It consists of an enhanced page of the object model. It also has plug and plays model of automation that drives the keywords. It does help in the maintenance of test codes to make them readable.

The key elements of the TAF framework are equipment, procedure, testing tools, test automation and scripts. Three components are management, service designs, automated deployment, serendipity management and the user.

The benefits of the TAF framework are faster return, concentrated storage of tests, retention of the data, rapid results, separation of duties and lower maintenance through reuse. This framework has an experience of more than 50 years which supports java-based scripting.

STEP 7: Based on the previous steps, compile a list of all key transformations.

First, The 5G was first launched at the iconic tower of Burj Khalifa which marked the digital transformation journey and created a new milestone. Meanwhile, The RPA model has created a greater solution to enhanced customer experience and efficiency. The collaboration with Accenture and oracle has led to give better digital transformation experiences. It went to MOW with Oracle for SMB which targets the enterprise clients. It has rebranded its e& group which accelerates the journey for the empowerment of the society. Comvive, the leader in digital solution has partnered with Etisalat to offer caller tune services. It is considered the adoption of new digital services. The company partnered with the Dubai

police for the delivery of the Oyoon project. It was raised to increase awareness of safety for the citizens. The B2B services of Etisalat, especially in the cybersecurity and cloud connectivity with the Help AG operation enabled secured and digital transformations for all its customers. The company also worked with DMCC for a smart and sustainable network. Maroc Telecom has invested in digital technologies for the education sector and distributed more than 10,000 books that were available on the Etisalat platform. The Etisalat cloud express is in collaboration with Amazon web services and Microsoft Azure. The Ministry of Interior, along with Etisalat continues with the Hassantuk project to make a smarter fire alarm solution which covers 40,000 villas

STEP 8: Make a list of transformations across the impact/difficulty matrix.

- *First Transformation Initiative:*

The first transformation that is carried out across the Etisalat market for digital innovation with the company strategy. Most valuable customer brand is focus on digital channels. 5G network uses cases are tasted. And the exploiting of 5G technology in enable to new services.

- *Second Transformation Initiative:*

Second transformation that is carried out across the Etisalat market for digital innovation with the company strategy is the RPA model. RPA model has created a greater solution to enhance customer experience and efficiency. Robot process automation use case are initiates. The exploiting power of robot process automation technology is enabled to new services.

- *Third Transformation Initiative:*

Third transformation is carried out across the Etisalat market for digital innovation with the company strategy is MOW. MOW with oracle for SMB which targets the enterprise client. The exploiting the power of MOW will enable to new services.

STEP 9: Identify the most relevant digital transformation plans.

At the Final Step, will identify a plan of digital transformation strategy with the priority for each. In smart connectivity: High-speed internet is the right which offers the consumers the proper working environment. It offers cloud computing and wifi called as Smart connectivity. While In

business devices: It combines the form of business models to make a value to discuss the role of devices that is the Business devices. In communication and collaboration: Employees need to access more productive and more efficient to make a digital transformation company for Communication and collaboration. However, in office productivity the Digital transformation should lead to high employee management that is empowering employees to make a decision quickly and the Digital transformation in digital marketing is about harnessing using technology to evolve all aspects of Digital marketing. Digital transformation is a new process to secure their data system process is disappearing security responsibility and security. Also, Digital business edge offers an advantage to the small businesses to innovate and customize their products for the individual customers of Business edge. In analytics the data transformation data analytics is composed includes diagnostic and prescriptive that have the different objective processes. The Digital transformation intelligence to make changes through the introduction that collects data using the machine and Intelligence. At the end, The digital transformation marketplace have managed all-trans marketplace

6. CONCLUSION & RECOMMENDATION

The analysis highlights the major risk of the implementation of the RPA system as per the current trend for minimizing the cost and time in project management and for expediting the whole process of project management, especially when the organization is walking on the path of digitization. According to the primary data information as gathered through the survey, selection of the wrong part of the project for automation, wrong configuration, inefficient regulating and monitoring, breakdown of the RPA system, data security breach & inefficient sharing of the RPA system are the major risks in the process that can lead to massive loss in the process of project management and the project may fail with a substantial business loss. The research reveals that among the different risks of applying the RPA system the risk of wrong configuration and automation of the wrong part of the project appears as the most difficult risk to handle and only employees who are having relevant experience in the field can deal with the issue by taking proper

decisions.

When an organization is looking to implement the RPA system in the business operation process then the business must look for the relevant expertise from inside or can hire outside for developing the framework of operational method on the basis of which a specific or most suitable RPA system will be implemented for a particular business organization depending upon the nature of operation.

Only the opinion of the experts who have long years of experience in the field should be taken for automating the part of a project. The experts with long (say at least 10 years) years of experience should be taken under consideration to decide the part of the project to be automated and accordingly the configuration codes will be developed for the implementation of the project

Rigorous coding based security to be undertaken for preventing data breach when the RPA system is going to be shared by multiple units who are part of project completion.

REFERENCES

- Abudaqa, A., Alzahmi, R.A., Almujaani, H., Ahmed, G., 2022. Does innovation moderate the relationship between digital facilitators, digital transformation strategies and overall performance of SMEs of UAE? *Int. J. Entrep. Ventur.* 14, 330–350.
- Abudaqa, A., Hilmi, M.F., Almujaani, H., Alzahmi, R.A., Ahmed, G., 2021. Students' perception of e-Learning during the Covid Pandemic: a fresh evidence from United Arab Emirates (UAE). *J. E-Learning Knowl. Soc.* 17, 110–118.
- Ahmed, G., Abudaqa, A., Jayachandran, C., Limbu, Y., Alzahmi, R., 2022. Nation Branding as a Strategic Approach for Emerging Economies: The Case of UAE, in: *Marketing Communications and Brand Development in Emerging Economies*. Springer, pp. 41–57.
- Ahmed, G., Nabeel Al Amiri, 2022. the Transformational Leadership of the Founding Leaders of the United Arab Emirates: Sheikh Zayed Bin Sultan Al Nahyan and Sheikh Rashid Bin Saeed Al Maktoum. *Int. J. Technol. Innov. Manag.* 2, 1.
- Aityassine, F., Soumadi, M., Aldiabat, B., Al-Shorman, H., Akour, I., Alshurideh, M., Al-Hawary, S., 2022. The effect of supply chain resilience on supply chain performance of chemical industrial companies. *Uncertain Supply Chain Manag.* 10, 1271–1278.
- Akour, I., Alnazzawi, N., Alshurideh, M., Almaiah, M.A., Al Kurdi, B., Alfaisal, R.M., Salloum, S., 2022. A Conceptual Model for Investigating the Effect of Privacy Concerns on E-Commerce Adoption: A Study on United Arab Emirates Consumers. *Electron.* 11, 3648.
- Akour, I., Alshurideh, M., Al Kurdi, B., Al Ali, A., Salloum, S., 2021. Using machine learning algorithms to predict people's intention to use mobile learning platforms during the COVID-19 pandemic: Machine learning approach. *JMIR Med. Educ.* 7, 1–17.
- Akour, I., Rahamneh, A.A.L., Al Kurdi, B., Alhamad, A., Al-Makhariz, I., Alshurideh, M., Al-Hawary, S., 2023. Using the Canonical Correlation Analysis Method to Study Students' Levels in Face-to-Face and Online Education in Jordan. *Inf. Sci. Lett.* 12, 901–910.
- Akour, I.A., Al-Marouf, R.S., Alfaisal, R., Salloum, S.A., 2022. A conceptual framework for determining metaverse adoption in higher institutions of gulf area: An empirical study using hybrid SEM-ANN approach. *Comput. Educ. Artif. Intell.* 3, 2.
- Al-Awamleh, H.K., Alhalalmeh, M.I., Alatyat, Z.A., Saraireh, S., Akour, I., Alneimat, S., Alathamneh, F.F., Abu-Farha, Y.S., Al-Hawary, S.I.S., 2022. The effect of green supply chain on sustainability: Evidence from the pharmaceutical industry. *Uncertain Supply Chain Manag.* 10, 1261–1270.
- Al-Dmour, N.A., Ali, L., Salahat, M., Alshurideh, M., Alzoubi, H.M., Ghazal, T.M., Chabani, Z., 2023. Information Systems Solutions for the Database Problems. *Stud. Comput. Intell.* 2023, 703–715.
- Al-Kassem, A., Bakri, A., In'airat, M., 2013. Evaluation Tools of Total Quality Management in Business Organizations. *Eur. J. Bus. Manag.* 5, 41–51.
- Al-Kassem, A.H., 2017. Recruitment and Selection Practices in Business Process Outsourcing Industry. *Arch. Bus. Res.* 5, 40–52.
- Al-Kassem, A.H., Aguenza, B.B., Alghurabli, Z.E., 2022. Accreditation of Academic Programs: Implications on Quality Governance and Administration of Taguig City University. *J. Posit. Sch. Psychol.* 6, 3908–3923.
- Al-Kassem, Aguenza, B.B., Hami, A., Som, A.P.M., 2012. Social Media and Productivity in the Workplace: Challenges and Constraints. *Interdiscip. J. Res. Bus.* 2, 22–26.
- Al-Kassem, H., 2014. Determinants of employee's overall satisfaction toward training and development programs. *Int. J. Econ. Financ. Manag.* 3, 129–135.
- Al-Marouf, A., Salloum, A., Al-Marouf, R.S., Akour, I., Aljanada, R., Alfaisal, A.M., Alfaisal, R.M., Aburayya, A., Salloum, S.A., 2021. Acceptance determinants of 5G services Title Acceptance determinants of 5G services *International Journal of Data and Network Science Acceptance determinants of 5G services*. Canada. *Int. J. Data Netw. Sci.* 5, 613–628.
- Al-Marouf, R.S., Alahbabi, N.M.N., Akour, I., Alhumaid, K., Ayoubi, K., Alnnaimi, M., Thabit, S., Alfaisal, R., Aburayya, A., Salloum, S., 2022a. Students' perception towards behavioral intention of audio and video teaching styles: An acceptance study. *Int. J. Data Netw. Sci.* 6, 603–618.
- Al-Marouf, R.S., Alhumaid, K., Akour, I., Salloum, S., 2021a. Factors that affect e-learning platforms after the spread of covid-19: Post acceptance study. *Data* 6, 49.
- Al-Marouf, R.S., Alnazzawi, N., Akour, I., Ayoubi, K., Alhumaid, K., Nasser, N.M., Alaraimi, S., Al-Bulushi, A.A., Thabit, S., Alfaisal, R., Aburayya, A., Salloum, S., 2022b. Students' perception towards using electronic feedback after the pandemic: Post-acceptance study. *Int. J. Data Netw. Sci.* 6, 1233–1248.
- Al-Marouf, R.S., Alnazzawi, N., Akour, I.A., Ayoubi, K., Alhumaid, K., Alahbabi, N.M., Alnnaimi, M., Thabit, S., Alfaisal, R., Aburayya, A., Salloum, S., 2021b. The effectiveness of

- online platforms after the pandemic: Will face-to-face classes affect students' perception of their behavioural intention (BIU) to use online platforms? *Informatics* 8, 4.
- AlDhaheri, H., Hilmi, M.F., Abudaqa, A., Alzahmi, R.A., Ahmed, G., 2023. The relationship between HRM practices, innovation, and employee productivity in UAE public sector: a structural equation modelling approach. *Int. J. Process Manag. Benchmarking* 13, 157–176.
- AlHamad, M., Akour, I., Alshurideh, M., Al-Hamad, A., Kurdi, B., Alzoubi, H., 2021. Predicting the intention to use google glass: A comparative approach using machine learning models and PLS-SEM. *Int. J. Data Netw. Sci.* 5, 311–320.
- Aljumah, A., Nuseir, M., Refae, G., 2023. Examining the effect of social media interaction, E-WOM, and public relations: Assessing the mediating role of brand awareness. *Int. J. Data Netw. Sci.* 7, 467–476.
- Aljumah, A., Nuseir, M.T., Islam, A., 2020. Impacts of service quality, satisfaction and trust on the loyalty of foreign patients in Malaysian medical tourism. *International journal of innovation. Creat. Chang.* 11, 451–467.
- Aljumah, A.I., Nuseir, M.T., Alam, M.M., 2021a. Traditional marketing analytics, big data analytics and big data system quality and the success of new product development. *Bus. Process Manag. J.* 27, 1108–1125.
- Aljumah, A.I., Nuseir, M.T., Alam, M.M., 2021b. Organizational performance and capabilities to analyze big data: do the ambidexterity and business value of big data analytics matter? *Bus. Process Manag. J.* 27, 1088–1107.
- Aljumah, Ahmad Ibrahim, Nuseir, M.T., El Refae, G.A., 2022a. The effect of sensory marketing factors on customer loyalty during Covid 19: Exploring the mediating role of customer satisfaction. *Int. J. Data Netw. Sci.* 6, 1359–1368.
- Aljumah, A I, Nuseir, M.T., El Refae, G.A., 2022a. Exploring the Effect of Social Media Marketing and Destination image on Destination Loyalty in Covid-19 Times: Sequential Mediating Role of Brand Love and Brand Loyalty, in: In 2022 International Arab Conference on Information Technology (ACIT). IEEE, pp. 1–8.
- Aljumah, A I, Nuseir, M.T., El Refae, G.A., 2022b. Business Analytics and Competitive Advantage for SMEs in UAE: A Mediating Role of Technology Assets, in: In 2022 International Arab Conference on Information Technology (ACIT). IEEE, pp. 1–9.
- Aljumah, Ahmad Ibrahim, Shahroor, H., Nuseir, M.T., El Refae, G.A., 2022b. The effects of employee commitment and environment uncertainty on product quality: The mediating role of supply chain integration. *Uncertain Supply Chain Manag.* 10, 1379–1386.
- Almasaeid, T., Alzoubi, H., El Khatib, M., Ghazal, T., Alshurideh, M., Al-Dmour, N., Sattar, O., Ae, 2022. Futuristic Design & Development of Learning Management System including Psychological Factors Resolution. *J. Reatt. Ther. Dev. Divers.* 5, 176–188.
- Aloini, D., Dulmin, R., Mininno, V., 2007. Risk management in ERP project introduction: Review of the literature. *Inf. \& Manag.* 44, 547–567.
- Alshawabkeh, A., Nuseir, M.T., Aljumah, A., 2021. Impacts of social media on the buying intention of the consumers in Edinburgh, UK. *Int. J. Procure. Manag.* 14, 470–486.
- Alshurideh, M., Al-Hawary, S.I.S., Mohammad, A.M.E., Al-Hawary, A.A., Al Kurdi, B., 2017. The Impact of Islamic Banks' Service Quality Perception on Jordanian Customers Loyalty. *J. Manag. Res.* 9, 139.
- Alshurideh, Muhammad, Al Kurdi, B.H., Alzoubi, H.M., Salloum, S., 2023. The Effect of Information Technology on Business and Marketing Intelligence Systems. Springer Nature.
- Alshurideh, M., Almasaeid, T., El Khatib, M., Alzoubi, H., Ghazal, T., Hamadneh, S., Al-Dmour, N., Sattar, O., 2022. Components Determining the Behavior and Psychological impact of Entrepreneurship among Higher Vocational Students. *J. Reatt. Ther. Dev. Divers.* 5, 189–200.
- Alshurideh, M., Kurdi, B., AlHamad, A., Hamadneh, S., Alzoubi, H., Ahmad, A., 2023. Does social customer relationship management (SCRM) affect customers' happiness and retention? A service perspective. *Uncertain Supply Chain Manag.* 11, 277–288.
- Alshurideh, Muhammad Turki, Al-Hadrami, A., Alquqa, E.K., Alzoubi, H.M., Hamadneh, S., Al Kurdi, B., 2023a. The effect of lean and agile operations strategy on improving order-winners: Empirical evidence from the UAE food service industry. *Uncertain Supply Chain Manag.* 11, 87–94.
- Alshurideh, M.T., Al Kurdi, B., Alzoubi, H.M., Obeidat, B., Hamadneh, S., Ahmad, A., 2022a. The influence of supply chain partners' integrations on organizational performance: The moderating role of trust. *Uncertain Supply Chain Manag.* 10, 1191–1202.
- Alshurideh, Muhammad Turki, Alquqa, E.K., Alzoubi, H.M., Al Kurdi, B., Alhamad, A., 2023b. The impact of cyber resilience and robustness on supply chain performance: Evidence from the UAE chemical industry. *Uncertain Supply Chain Manag.* 11, 187–194.
- Alshurideh, Muhammad Turki, Alquqa, E.K., Alzoubi, H.M., Al Kurdi, B., Hamadneh, S., 2023c. The effect of information security on e-supply chain in the UAE logistics and distribution industry. *Uncertain Supply Chain Manag.* 11, 145–152.
- Alshurideh, M.T., Alzoubi, H.M., El khatib, M., Ghazal, T.M., Al-Dmour, N.A., Sattar, O., Kukunuru, S., 2022b. An Experimental Evaluation on Resource Attribute, Internal Risks and Regime Structure of R&D Association-Including Exploration of Moderating Effect of Association Management Capability, *Psychological. J. Reatt. Ther. Dev. Divers.* 5, 201–215.
- Alshurideh, M.T., Obeidat, B.Y., Victoria, V., Alzoubi, H.M., Fatima, A., Ilyas, A., Rustam, I., 2022c. A Systematic Literature Review of Security in 5G based Social Networks, in: International Conference on Cyber Resilience, ICCR 2022. ICCR 2022, 2022.
- Alzoubi, H., Ahmed, G., 2019. Do TQM practices improve organisational success? A case study of electronics industry in the UAE. *Int. J. Econ. Bus. Res.* 17, 459–472.
- Alzoubi, H., Alshurideh, M., Gasaymeh, A., Ahmed, G., Kurdi, B., Al, 2020. Loyalty program effectiveness: Theoretical reviews and practical proofs. *Uncertain Supply Chain Manag.* 8, 599–612.
- Alzoubi, H., Alshurideh, M., Kurdi, B., Akour, I., Aziz, R., 2022. Does BLE technology contribute towards improving marketing strategies, customers' satisfaction and loyalty? The role of open innovation. *Int. J. Data Netw.*

- Sci. 6, 449–460.
- Alzoubi, H.M., Ahmed, G., Al-Gasaymeh, A., Al Kurdi, B., 2020. Empirical study on sustainable supply chain strategies and its impact on competitive priorities: The mediating role of supply chain collaboration. *Manag. Sci. Lett.* 10, 703–708.
- Alzoubi, H.M., Ahmed, G., Alshurideh, M., 2022a. An empirical investigation into the impact of product quality dimensions on improving the order-winners and customer satisfaction. *Int. J. Product. Qual. Manag.* 36, 169–186.
- Alzoubi, H.M., Alshurideh, M.T., Al Kurdi, B., Ghazal, T.M., Said, R.A., AlHamad, A.Q., Hamadneh, S., Sahawneh, N., Al-kassem, A.H., 2022b. Fuzzy assisted human resource management for supply chain management issues. *Ann. Oper. Res.* 2, 617–629.
- Alzoubi, H.M., El Khatib, M.M., Ahmed, G., Kazim, H.H., Falasi, S.A.A. Al, Mohammed, F., Mulla, M. Al, 2022c. Digital Transformation and SMART-The Analytics factor, in: 2022 International Conference on Business Analytics for Technology and Security, ICBATS 2022. pp. 1–11.
- Alzoubi, H.M., Ghazal, T.M., El khatib, M., Alshurideh, M.T., Alami, R., Al Masa'eid, T., 2022d. Creation of Indicator System for Quality Estimation of Safety Management of Personnel and its Psychological impact on Industrial Enterprises. *J. Reatt. Ther. Dev. Divers.* 5, 143–151.
- Alzoubi, H.M., In'airat, M., Ahmed, G., 2022e. Investigating the impact of total quality management practices and Six Sigma processes to enhance the quality and reduce the cost of quality: the case of Dubai. *Int. J. Bus. Excell.* 27, 94–109.
- Alzoubi, H.M., Kurdi, B. Al, Akour, I., Alshurideh, M.T., 2022f. The effect of blockchain and smart inventory system on supply chain performance: Empirical evidence from retail industry. *Uncertain Supply Chain Manag.* 10, 1111–1116.
- Alzoubi, H.M., Kurdi, B. Al, Alshurideh, M., Akour, I., Obeidat, B., Alhamad, A., 2022g. The role of digital marketing channels on consumer buying decisions through eWOM in the Jordanian markets. *Int. J. Data Netw. Sci.* 6, 1175–1185.
- Alzoubi, H.M., Kurdi, B. Al, Alshurideh, M., Akour, I., Tariq, E., Alhamad, A., 2022h. The effect of social media influencers' characteristics on consumer intention and attitude toward Keto products purchase intention. *Int. J. Data Netw. Sci.* 6, 1135–1146.
- Alzoubi, H.M., Mehmood, T., Alshurideh, M., Al-Gasaymeh, A., Ahmed, G., 2019. Schumpeterian entrepreneurship theory: Evolution and relevance. *Acad. Entrep. J.* 25, 1–10.
- Alzoubi, H.M., Sahawneh, N., Alhamad, A.Q., Malik, U., Majid, A., Atta, A., 2022i. Analysis Of Cost Prediction In Medical Insurance Using Modern Regression Models, in: International Conference on Cyber Resilience, ICCR 2022. ICCR 2022, 2022.
- Amiri, N. Al, Rahim, R.E.A., Ahmed, G., 2020. Leadership styles and organizational knowledge management activities: A systematic review. *Gadjah Mada Int. J. Bus.* 22, 250–275.
- Annarelli, A., Palombi, G., 2021. Digitalization capabilities for sustainable cyber resilience: a conceptual framework. *Sustain.* 13.
- Arshad, M., Brohi, M., Soomro, T., Ghazal, T., Alzoubi, H., Alshurideh, M., 2023. NoSQL: Future of BigData Analytics Characteristics and Comparison with RDBMS. pp. 1927–1951.
- Aziz, A., Brohi, M.N., Soomro, T.R., Alzoubi, H.M., Ghazal, T.M., Alshurideh, M., 2023. Aircraft Turnaround Manager (ATM): A Solution to Airport Operations. *Stud. Comput. Intell.* 2023, 679–702.
- Baryannis, G., Validi, S., Dani, S., Antoniou, G., 2019. Supply chain risk management and artificial intelligence: state of the art and future research directions. *Int. J. Prod. Res.* 57, 2179–2202.
- Bawaneh, A., Massadeh, D., Akour, I., Abu haija, A., Alshurideh, M., 2023. The Impact of Green Auditing on Organizational Performance in Jordan: the Moderating Effect of the Auditor's Opinion. *Inf. Sci. Lett.* 12, 1505–1512.
- Blooshi, I., Alamim, A., Said, R., Taleb, N., Ghazal, T., Ahmad, M., Alzoubi, H., Alshurideh, M., 2023. IT Governance and Control: Mitigation and Disaster Preparedness of Organizations in the UAE. pp. 661–677.
- Eikebrokk, T.R., Olsen, D.H., 2020. Robotic Process Automation and Consequences for Knowledge Workers; a Mixed-Method Study. *Lect. Notes Comput. Sci.* (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics).
- El Khatib, D.M.M., 2015. Integrating Project Risk Management and Value Engineering in Tendering Processes. *Int. J. Eng. Res.* 4, 442–445.
- El Khatib, M., Alabdooli, K., AlKaabi, A., Al Harmoodi, S., 2020a. Sustainable Project Management: Trends and Alignment. *Theor. Econ. Lett.* 10, 1276–1291.
- El Khatib, M., Hammerschmidt, M., Al Junaibi, M., 2021. Leveraging innovation input on enhancing smart service quality. Cases from Abu Dhabi Emirate. *Int. J. Manag. Cases* 23, 46–62.
- El Khatib, M., Nakand, L., Almarzooqi, S., Almarzooqi, A., 2020b. E-Governance in Project Management: Impact and Risks of Implementation. *Am. J. Ind. Bus. Manag.* 10, 1785–1811.
- El Khatib, M.M., Ahmed, G., 2020. Robotic pharmacies potential and limitations of artificial intelligence: A case study. *Int. J. Bus. Innov. Res.* 23, 298–312.
- El Khatib, M.M., Ahmed, G., 2019. Management of artificial intelligence enabled smart wearable devices for early diagnosis and continuous monitoring of CVDS. *Int. J. Innov. Technol. Explor. Eng.* 9, 1211–1215.
- El Khatib, M.M., Ahmed, G., 2018. Improving Efficiency in IBM Asset Management Software System "Maximo": A Case Study of Dubai Airports and Abu Dhabi National Energy Company. *Theor. Econ. Lett.* 08, 1816–1829.
- El Khatib, M.M., Al-Nakeeb, A., Ahmed, G., 2019. Integration of Cloud Computing with Artificial Intelligence and Its Impact on Telecom Sector—A Case Study. *iBusiness* 11, 1–10.
- Fan, Y., Heilig, L., Voß, S., 2015. Supply chain risk management in the era of big data. *Lect. Notes Comput. Sci.* (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics) 9186, 283–294.
- Farrukh, M., Soomro, T.R., Ghazal, T.M., Alzoubi, H.M., Alshurideh, M., 2023. Perspectives of Online Education in Pakistan: Post-covid Scenario, in: The Effect of Information Technology on Business and Marketing

- Intelligence Systems. Springer, pp. 519–550.
- Fosso Wamba, S., Queiroz, M.M., Trinchera, L., 2020. Dynamics between blockchain adoption determinants and supply chain performance: An empirical investigation. *Int. J. Prod. Econ.* 229, 107791.
- Gaytan, J.C.T., Rafiuddin, A., Sisodia, G.S., Ahmed, G., Paramaiah, C., 2023. Pass-through Effects of Oil Prices on LATAM Emerging Stocks before and during COVID-19: An Evidence from a Wavelet -VAR Analysis. *Int. J. Energy Econ. Policy* 13, 529–543.
- Ghazal, T M, Al-Dmour, N.A., Said, R.A., Moubayed, A., Ali, L., Alzoubi, H.M., Alshurideh, M., 2023a. DDoS Intrusion Detection with Ensemble Stream Mining for IoT Smart Sensing Devices. *Stud. Comput. Intell.* 2023, 1987–2012.
- Ghazal, T M, Hasan, M.K., Abdullah, S.N.H.S., Alzoubi, H.M., Alshurideh, M., 2023b. An Integrated Cloud and Blockchain Enabled Platforms for Biomedical Research. *Stud. Comput. Intell.* 2023, 2037–2053.
- Ghazal, Taher M., Hasan, M.K., Ahmad, M., Alzoubi, H.M., Alshurideh, M., 2023. Machine Learning Approaches for Sustainable Cities Using Internet of Things. *Stud. Comput. Intell.* 2023, 1969–1986.
- Ghazal, T.M., Hasan, M.K., Alshurideh, M.T., Alzoubi, H.M., Ahmad, M., Akbar, S.S., Kurdi, B. Al, Akour, I.A., 2021. IOT for Smart Cities: Machine Learning Approaches in smart healthcare---A Review. *Futur. Internet* 13, 8.
- Ghazal, T M, Hasan, M.K., Alzoubi, H.M., Alshurideh, M., Ahmad, M., Akbar, S.S., 2023c. Internet of Things Connected Wireless Sensor Networks for Smart Cities. *Stud. Comput. Intell.* 2023, 1953–1968.
- Gulseven, O., Ahmed, G., 2022. The State of Life on Land (SDG 15) in the United Arab Emirates. *Int. J. Soc. Ecol. Sustain. Dev.* 13, 1–15.
- Hani Al-Kassem, A., 2021. Significance of Human Resources Training and Development on Organizational Achievement. *PalArch's J. Archaeol. Egypt / Egyptol.* 18, 693–707.
- Ivančić, L., Suša Vugec, D., Bosilj Vukšić, V., 2019. Robotic Process Automation: Systematic Literature Review, in: *Lecture Notes in Business Information Processing*. pp. 280–295.
- Kassem, A., Martinez, E.B., 2022. Operationalization of Negosyo Center as an Entrepreneurial Strategy to Selected Micro, Small, and Medium Enterprises in Taguig City. *Glob. Bus. Manag. Res.* 14, 88–104.
- Khan, A., Hasana, M.K., Ghazal, T.M., Islam, S., Alzoubi, H.M., Mokhtar, U.A., Alam, R., Ahmad, M., 2022. Collaborative Learning Assessment via Information and Communication Technology, in: *Proceedings - 2022 RIVF International Conference on Computing and Communication Technologies, RIVF 2022*. RIVF 2022, 2022, pp. 311–316.
- Khatib, Alzoubi, H., El, M., 2022. BIM as a tool to optimize and manage project risk management. *Int. J. Mech. Eng.* 7, 6307–6323.
- Khatib, E., M., Z., A., R., Al-Nakeeb, A., 2021. The effect of AI on project and risk management in health care industry projects in the United Arab Emirates (UAE). *Int. J. Appl. Eng. Res.* 6, 1.
- Khatib, M. El, Alzoubi, H.M., Mulla, A. Al, Ketbi, W. Al, 2022a. The Role of Blockchain in E-Governance and Decision-Making in Project and Program Management. *Adv. Internet Things* 12, 88–109.
- Khatib, M. El, Beshwari, F., Beshwari, M., Beshwari, A., 2021. The impact of blockchain on project management. *ICIC Express Lett.* 15, 467–474.
- Khatib, M. El, Hamidi, S., Ameer, I. Al, Zaabi, H. Al, Marqab, R. Al, 2022b. Digital Disruption and Big Data in Healthcare- Opportunities and Challenges. *Clin. Outcomes Res.* 14, 563–574.
- Khatib, M.M. El, Opulencia, M.J.C., 2015. The Effects of Cloud Computing (IaaS) on E- Libraries in United Arab Emirates. *Procedia Econ. Financ.* 23, 1354–1357.
- Lee, K.L., Nawansir, G., Cheng, J., Alzoubi, H., Alshurideh, M., 2023. Educational Supply Chain Management: A View on Professional Development Success in Malaysia. pp. 2473–2490.
- Louzi, N., Alzoubi, H.M., Alshurideh, M.T., El khatib, M., Ghazal, T.M., Kukunuru, S., 2022a. Psychological & Prototypical Model of Execution Management evaluation for the framework Development. *J. Reatt. Ther. Dev. Divers.* 5, 216–223.
- Louzi, N., Alzoubi, H.M., El Khatib, M., Ghazal, T.M., Alshurideh, M., Kukunuru, S., 2022b. Psychological Health and Environmental Effect of using Green Recycled Amassed Concrete on Construction. *J. Reatt. Ther. Dev. Divers.* 5, 163–175.
- Madakam, S., Holmukhe, R.M., Kumar Jaiswal, D., 2019. The Future Digital Work Force: Robotic Process Automation (RPA). *J. Inf. Syst. Technol. Manag.* 16, 1–17.
- Marnewick, C., Labuschagne, L., 2009. Deriving projects from the organisational vision using the Vision-to-Projects (V2P) Framework. *South. African Bus. Rev.* 13, 119–146.
- Mat Som, A.P., Kassem, H. Al, 2013. Domestic Tourism Development in Asir Region, Saudi Arabia. *J. Tour. Hosp.* 02.
- Mubeen, S., Shahid, M.H., Sahawneh, N., Al-Kassem, A.H., Ahmad, A., Naseer, I., 2022. Education, Employment and Women Empowerment in an Agrarian Economy: A Case Study. 2022 *Int. Conf. Bus. Anal. Technol. Secur.* 1–9.
- Nadzri, W., Hashim, A., Majid, M., Jalil, N., Alzoubi, H., Alshurideh, M., 2023. Share Your Beautiful Journey: Investigating User Generated Content (UGC) and Webrooming Among Malaysian Online Shoppers. pp. 2265–2285.
- Nuseir, M., Elrefae, G., 2022. The effects of facilitating conditions. *Cust. Exp. Brand Loy. Cust. Brand equity through Soc. media Mark.* 6, 875–884.
- Nuseir, M.T., 2021. Assessing the impact of brand equity and customer experience on brand loyalty in the United Arab Emirates' hotel industry. *Int. J. Bus. Excell.* 25, 459–473.
- Nuseir, M.T., 2020. Potential impacts of blockchain technology on business practices of bricks and mortar (B&M) grocery stores. *Bus. Process Manag. J.* 27, 1256–1274.
- Nuseir, M.T., Aljumah, A., 2022. The impact of entrepreneur orientation on sustainable entrepreneurship among SMEs in the UAE: mediating effects of the sustainability orientation and bricolage behaviours of entrepreneurs. *Int. J. Trade Glob. Mark.* 16, 250–264.
- Nuseir, M.T., Aljumah, A., 2020. The role of digital marketing in business performance with the moderating effect of environment factors among SMEs of UAE. *International Journal of Innovation. Creat. Chang.* 11, 310–324.

- Nuseir, Mohammed T., Aljumah, A.I., El-Refae, G.A., 2022. Digital marketing and public relations: A way to promote public relations value. *Int. J. Data Netw. Sci.* 6, 1331–1340.
- Nuseir, M T, Aljumah, A.I., El Refae, G.A., 2022a. The Influence of E-learning M-learning, in: And D-Learning on the Student Performance: Moderating Role of Institutional Support. In 2022 International Arab Conference on Information Technology (ACIT) . IEEE, pp. 1–9.
- Nuseir, M T, Aljumah, A.I., El Refae, G.A., 2022b. Trust in Adoption of Internet of Things: Role of Perceived Ease of Use and Security, in: In 2022 International Arab Conference on Information Technology (ACIT). IEEE, pp. 1–7.
- Nuseir, M.T., Basheer, M.F., Aljumah, A., 2020. Antecedents of entrepreneurial intentions in smart city of Neom Saudi Arabia: Does the entrepreneurial education on artificial intelligence matter? *Cogent Bus. Manag.* 7.
- Nuseir, M.T., El-Refae, G.A., Aljumah, A., 2021. The e-Learning of Students and University's Brand Image (Post COVID-19): How Successfully Al-Ain University Have Embraced the Paradigm Shift in Digital Learning, *Studies in Systems, Decision and Control*. Springer International Publishing.
- Nuseira, M.T., Aljumahb, A., 2020. Digital marketing adoption influenced by relative advantage and competitive industry: a UAE tourism case study. *Int. J. Innov. Creat. Chang.* 2020, 617–631.
- Ribeiro, J., Lima, R., Eckhardt, T., Paiva, S., 2021. Robotic Process Automation and Artificial Intelligence in Industry 4.0 - A Literature review. *Procedia Comput. Sci.* 181, 51–58.
- Sakthivel, A.M., Ahmed, G., Amponsah, C.T., Muuka, G.N., 2022. The influence of price and brand on the purchasing intentions of Arab women: an empirical study. *Int. J. Bus. Innov. Res.* 28, 141–161.
- Tariq, E., Alshurideh, M., Akour, I., Al-Hawary, S., 2022a. The effect of digital marketing capabilities on organizational ambidexterity of the information technology sector. *Int. J. Data Netw. Sci.* 6, 401–408.
- Tariq, E., Alshurideh, M., Akour, I., Al-Hawary, S., Kurdi, B. Al, 2022b. The role of digital marketing, CSR policy and green marketing in brand development. *Int. J. Data Netw. Sci.* 6, 995–1004.
- van der Aalst, W.M.P., Bichler, M., Heinzl, A., 2018. Robotic Process Automation. *Bus. Inf. Syst. Eng.* 60, 269–272.
- Varma, A.J., Taleb, N., Said, R.A., Ghazal, T.M., Alzoubi, H.M., Alshurideh, M., 2023. A Roadmap for SMEs to Adopt an AI Based Cyber Threat Intelligence. *Stud. Comput. Intell.* 2023, 1903–1926.
- Yasir, A., Ahmad, A., Abbas, S., Inairat, M., Al-Kassem, A.H., Rasool, A., 2022. How Artificial Intelligence Is Promoting Financial Inclusion? A Study On Barriers Of Financial Inclusion, in: 2022 International Conference on Business Analytics for Technology and Security (ICBATS). pp. 1–6.