

## The impact of customer service digitalization on customer satisfaction: Evidence from telecommunication industry

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### CHRONICLE

### ABSTRACT

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This research examines the links between customer perceived expectations, customer perceived experience, and customer satisfaction in the United Arab Emirates' digital solution in the telecommunications industry. The research takes a positivist philosophical perspective and uses a quantitative data analysis strategy to sample 130 clients who utilize the digital solution of the telecommunications sector in the United Arab Emirates. Exploratory component analysis and multiple regression analysis were used to evaluate and validate the validity of the suggested scales and the research model's linkages. The research discovered a strong correlation between customer expectation and customer experience and the degree of satisfaction of individuals in the United Arab Emirates due to their use of or engagement with digital solutions of the telecommunications sector, independent of generational differences. The study's findings are entirely consistent with the Expectancy-Disconfirmation and Evaluation Congruity Theories.

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## 1. Introduction

Businesses have embraced digital technology to communicate with their consumers more efficiently (Lee et al., 2022; Tariq et al., 2022). Companies such as restaurants, grocery stores, schools, and employment practices have shifted to Work-From-Home and remote learning for students (Al Kurdi et al., 2020; Alshurideh et al., 2019a&b; Leo et al., 2021). The transition to digital technology compelled the Telecommunications Regulatory Authority (TRA) to rethink certain of its telecommunications rules in the interest of consumer experience. The legislative reform enables the transmission of digital apps via mobile and fixed networks to suit people's work-from-home, distance learning, socializing, and gaming demands during COVID-19 isolation (Self-Quarantine) (Al-Marouf et al., 2021; Suleman et al., 2021). The changes in human behavior and processes raise the pressure on the telecommunications industry, which must now fulfill the increase in data consumption demand (Ashal et al., 2021; AlHamad et al., 2022). Thus, the telecommunications industry must invest in the growth of core network parts to satisfy workers' and students' social and gaming needs for data speed throughput and latency performance (Alzoubi et al., 2020; Hayajneh et al., 2021). Additionally, the telecommunications industry must invest in its activation and provisioning personnel to meet consumer demands following the Telecommunications Regulatory Authority's (TRA) service level agreement (SLA). The telecom sector's investment is intended to comply with the Telecommunications Regulatory Authority's (TRA) Customer Protection Policy. To offer cutting-edge service quality and to deliver services to consumers under the "Get

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What You Pay" program, as well as to complete customer service requests as per the Telecommunications Regulatory Authority (TRA) Service Level Agreement (SLA). The shift in customer expectation and the extra demand from customers in different sectors to transform to digital. New customer expectation means a new standard quality level of service that customers are expecting (Zu'bi et al., 2012; Sweis et al., 2019). The new expectation from customers creates an additional load on the telecommunication sectors to change policies to open more digital platforms and an extra burden on telecommunication service providers to invest in the core infrastructure to meet customer expectations from a telecommunication services performance perspective (Asha'al et al., 2019; Obeidat et al., 2021). Telecommunication service providers invest in transforming the telecommunication service lifecycle journey to digital, digitizing searching for a service or product, purchase, using a service or product, after-sales support, and feedback (Obeida et al., 2015; Reinartz et al., 2019).

## 2. Research aim, problem, objectives

This study examines the impact of customer journey digital solution transformation on customer satisfaction in the telecommunication sector in the United Arab Emirates (Ahmed et al., 2020; Odeh et al., 2021). Therefore, do customers are satisfied with the digital solutions and interactions provided by the telecommunication sector in the United Arab Emirates from expectation pre-interactions, disconfirmation post-interaction, and customer digital experience word-of-mouth and recommendations (Allozi et al., 2022; Alzoubi et al., 2022). The study tries to answer the following questions:

- How do customers perceive performance before digital solution interaction with the telecommunication sector in the United Arab Emirates?
- How do customers perceive digital solution interaction with the telecommunication sector in the United Arab Emirates?
- What is the Satisfaction feeling post-digital solution interaction with the telecommunication sector in the United Arab Emirates?
- What is the Outcome of the Satisfaction feeling post-digital solution interaction with the telecommunication sector in the United Arab Emirates?
- Is there a difference in perceived performance pre-digital solution interaction with the telecommunication sector in the United Arab Emirates and evaluation of perceived performance, satisfaction feeling, and Satisfaction feeling Outcome post-digital solution interaction with the telecommunication sector in the United Arab Emirates from different generations perspective?
- Do different customer generations have a unique expectation and then evaluation that impacts the digital solution satisfaction level?

## 3. Literature Review

Worldwide, digital technologies are expanding in many sectors, such as the financial, telecommunication, and other service sectors. Newly created and deployed technologies, in particular, are transforming people's lifestyles and consumption patterns, significantly altering the nature of business-customer interactions (Zouari & Abdelhedi, 2021). Businesses transform to digital because of the pandemic. Additionally, the expectations of today's tech-savvy digital customers have evolved. They now anticipate the supply of digital solutions by a variety of service sectors and trade associations. Digital transformation initiatives in the private sector affect public administrations' expectations to offer high-value, real-time digital services. Governments are transforming their operating models to enhance service delivery, be more efficient and effective in their design, and accomplish enhanced transparency, interoperability, and consumer satisfaction (Mergel et al., 2019; Gebayew et al., 2018). However, numerous businesses fall short of meeting consumer expectations to produce customer value, most often because managers are unsure what constitutes customer value or how it is delivered (Mahmoud et al., 2018). Given the unique characteristics of the post-crisis market climate, the telecommunications industry's digital transformation anticipates continuing and accelerating under the competition in the digital era from now on. The telecommunications industry is a pioneer in integrating digital technology into network operations management and responding to market developments and client expectations.

Additionally, businesses must persist in acquiring digital skills that will elevate their customer service to the next level, enabling them to increase customer satisfaction rates and revenues through new business opportunities while assuring successful automation and associated cost efficiency. Achieving effectiveness and efficiency is one of the critical objectives in the digital era (Von Leipzig et al., 2017). Therefore, to appeal to a younger and technologically sophisticated client base, marketing activities should center on the provision of tailored services and digitally empowered experiences that increase customer satisfaction, since the latter is commonly recognized and quantified as a factor in determining repeat purchases, good word of mouth referrals, and most importantly, customer loyalty.

In contrast, in the banking sector, Herath et al. (2019) reveal that client acceptance has been restricted despite the potential advantages of new technology-driven banking efforts. Additionally, despite the current trend toward using new digital solutions in financial services, many clients remain uncomfortable with the latest trend and want to stick with the conventional services. Furthermore, Herath et al. (2019) examined consumer awareness and contentment with e-banking services and determined that consumers were not completely aware of the various e-banking services available. Their degree of Satisfaction

was simply indifferent. Banks should make a more significant effort to increase client awareness and Satisfaction with such digital solution projects by instilling trust.

On the other hand, Reinartz et al. (2019) reveal knowledge to extend to what Herath et al. (2019) show. Reinartz et al. (2019) say that in physical or digital retails, in many circumstances, the authority over the primary points of engagement with customers while formulating and executing purchase choices is likely to influence customer experience. For example, not only is Amazon the world's biggest online store and commerce platform, but it is also one of the most comprehensive product search engines. Consumers use Amazon to explore categories, compare prices, and discover particular goods to buy, allowing Amazon to exercise significant influence on customer decision-making since things not featured on Amazon may not even enter the consumer's consideration set. Additionally, Amazon's product rankings, ratings, and recommendations have a significant impact on purchasing choices. Amazon's simplified checkout funnel and one-click buy option assisted the short path from search to a transaction. Frequent engagement with the owner of the interface may help build brand awareness and build the customer connection. Such power over consumer interaction will lead customers to a better experience and better Satisfaction feeling Outcome. Customers will place a high value on various benefits such as experience, empowerment, and relevancy, all of which contribute to the ultimate decision's effectiveness (Reinartz et al., 2019).

### *3.1 Telecommunication sector in the United Arab Emirates*

The United Arab Emirates' telecommunications sector is considered one of the essential sectors due to its contribution to the country's Gross Domestic Product (GDP) and its importance to many businesses in the UAE, such as the health sector, tourist sector, other sorts of trade and commercial operations, and employment rate. Services contribute much more to a country's GDP and have surpassed manufacturing in terms of employment (Mahmoud et al., 2018).

#### *3.1.1 TRA*

The Telecommunication Regulatory Authority (TRA) was established by Decree No. 3 of the United Arab Emirates Federal Law in 2003. The Telecommunication Regulatory Authority (TRA) was established to provide a telecommunication regulatory and policy framework, guarantee the appropriate execution of telecommunication services in the United Arab Emirates, and provide high-quality services. In addition to offering the highest quality of service parameters, applauding Information and Communication Technology (ICT) in the United Arab Emirates (UAE) (TRA, 2020). According to the PORTULANS Institute (2019), the United Arab Emirates is the best-performing country in the Middle East and Northern Africa. According to the Ministry of Economy's annual report, the information and communication industry provides 5.9 percent of the United Arab Emirates Gross Domestic Product (GDP) with an investment of \$7,734 million in 2018 (Annual Economic Report, 2019).

#### *3.1.2 Etisalat*

Sheikh Zayed Bin Sultan Al Nahayan, the founder and president of the UAE, enacted Federal Act No. 1 1976 in 1976 Etisalat was formed. The Federal Act granted "Etisalat" the corporate authority to offer fixed and mobile services in the United Arab Emirates and roaming services globally (Alghawi, 2019). "Etisalat" is one of the world's largest suppliers of underwater cables linking carriers worldwide. Etisalat is ranked first in the area and 16th globally. In addition, Etisalat is recognized as the area's most valuable brand.

#### *3.1.3 du*

The Integrated Telecommunications Company (EITC), often known commercially as "du." According to Resolution No. 4 in 2006, du firm establishes a public joint-stock company. du ranked fourth in the area in terms of brand value. As a result, Etisalat's exclusive ear in the United Arab Emirates' telecommunications business has been broken by Integrated Telecommunication Company "du." du offers a wide range of goods and services, including landlines, Internet, and TV services over fixed and mobile networks (Alghawi, 2019).

### *3.2 The benefit of the telecommunication sector*

The telecommunications industry is one factor used to gauge a country's progress since its maturity and progression are regarded indicators. The telecommunications industry benefits many businesses in the current digital transformation, from education to distance learning to entertainment, cuisine, and employees' work. Additionally, generate stable employment opportunities and contribute favorably to countries' Gross Domestic Product (GDP). Further, it contributes to a nation's technical index, leadership, and homeland security. Furthermore, it draws international investment and revitalizes the tourist industry (The National Academies Press, 2006).

### 3.3 Digitization Vs. Digitalization Vs. Digital Transformation

Digitization is the process of converting analog information to zeroes and ones so that computers can store, process, and communicate it. Also, digitization is defined as the shift from analog to digital services via a 1:1 change in delivery and the integration of a technology delivery channel (Mergel et al., 2019; Gebayew et al., 2018). Bloomberg (2018) reveals that a consultancy firm defines digitization as converting an analog - to - a digital one. Converting handwritten medical reports to computer base digital medical reports is an example. Therefore, this translates digitization as converting information to digital but not the process. When it comes to Digitalization, Digitalization lacks a single, unambiguous definition. According to (Bloomberg, 2018), academics define Digitalization as the process through which many spheres of social life reorganize around digital communication and media infrastructures. Other scholars define Digitalization in terms of social life — how people interact. Further, Mergel et al. (2019) define Digitalization as attention to possible process modifications and digitization of current processes and forms. These interactions migrate from analog to digital technologies (mail, telephone calls) to email, chat, and social media. Digital transformation, a phrase inherited from the private sector, is mainly related to using new technologies to remain competitive in the Internet era. Services and goods are supplied both online and offline. Also, digital transformation defines as stress the cultural, organizational, and relational consumers exchange in the outcomes section to recognize the difference between various types of results (Mergel et al. 2019; Gebayew et al., 2018). The transition of online services is seen as a means of increasing customizability and automation via standardization. Additionally, digital transformation is defined as a process of rebuilding business models around the requirements of consumers via the use of new technology (Mergel et al., 2019; Gebayew et al., 2018).

In comparison, Bloomberg (2018) discloses, consultancy firms define Digitalization as the process of transforming a business model and creating new revenue and value-creating possibilities via the use of digital technology. Therefore, It is the process of changing your company into a digital one. On the other hand, the definition of consultancy form differs from academics, emphasizing shifting business models above social connections. Further, the industry profession defines Digitalization more about business operations than social interactions or business models, but all three concepts are interconnected. Another industry profession defines Digitalization as enhances process efficiency and data transparency, and it should, of course, contribute to your bottom line. This means If you manage an online platform, your business may already be 80 percent digital, and you may increase productivity or consumer value by digitizing the remaining 20 percent. Likely, the digitalization stage is not about deploying the technology behind such an online platform, as it is about changing the business process to such a platform. Most digital transformation efforts contain many digitization projects. Executives who feel that digital transformation is nothing more than Digitalization commit a grave strategic error. In actuality, digital transformation needs the company to improve its general ability to cope with change, ultimately turning change into a core skill as the firm becomes entirely customer-driven. In the end, information is digitized, processes and roles that comprise a firm's operations are digitized, and the company and its strategy digitally change. Each is required but insufficient for the next, and most significantly, Digitization and Digitalization are primarily concerned with technology, but digital transformation is not. The client is at the center of digital change.

### 3.4 The benefit of Digital Transformation and its Impact on Customers

Digital transformation is a multi-stage process impacted by external factors, such as adopting new technology by public administration stakeholders. While specialists have a concept of the Outcome of digital transformation, they can rarely illustrate how a digitally changed public administration may appear (Gebayew et al., 2018). Digital transformation is an ongoing process that requires constant modifications to its operations, services, and products in response to external demands. The expectation is to improve ties between public administrations and their citizens, enhance citizen satisfaction, and, perhaps most significantly, a shift in bureaucratic and organizational culture (Mergel et al., 2019). The terms e-government, digital government, and digital transformation all refer to the same thing. Analyzing how the public or private sector utilizes information and communication technologies to improve service delivery, modify organizational processes and culture, and effect value generation and customer experience (Mergel et al., 2019; Gebayew et al., 2018; von Leipzig et al., 2017). The visual aspect of digital transformation is the spread of intelligent devices that allow real-time monitoring and updating and services that revolutionize manufacturing processes and customer relationships (for example, Tesla updates the software on its vehicles in the same way that a phone does). In the private sector, complete digital transformation leads to establishing wholly new business models that challenge-based modes of service delivery, such as taxi services currently provided by non-professional drivers through Uber. This service links customers through a mobile phone app. It demonstrates that established avenues for service delivery and service providers are being phased out. As a result, digital transformation is seen to expand market share, enter new markets, acquire new consumers, and shedding those who do not contribute to the financial bottom line (Mergel et al., 2019).

### 3.5 Customer Satisfaction Vs. Customer Expectations and Service Quality

Zouari and Abdelhedi (2021) reveal, Customer satisfaction refers to how a customer feels about a service or product after using it. Customer satisfaction is regarded as a fundamental strategic objective to which every firm should devote particular attention. Also, almost all studies demonstrate a strong correlation between customer satisfaction and repurchase intentions,

good word of mouth, market reputation, and customer loyalty. These increase profit and cost savings (Zouari and Abdelhedi, 2021). When it comes to customer satisfaction, the first thing that comes to mind is service quality since Satisfaction depends on its level of service. Accordingly, service quality is a significant factor of customer satisfaction; hence, management must develop a simple definition of service quality and the most reliable evaluation procedure to assure high-quality service offerings. Zouari and Abdelhedi (2021) define service quality as the ability of a business to satisfy the expectations of its consumers about its service offerings while also representing the gap that may exist between what consumers anticipated service and the perceived service quality. Measuring instruments is critical for service quality management. Customer expectations and customer satisfaction are intimately linked. Customers are dissatisfied when they anticipate something from a business but do not get it. On the other hand, if customers have low expectations of a company and are pleasantly pleased, they may feel more satisfied than high hopes and are disappointed. Interestingly, businesses cannot precisely foresee what consumers want, so feedback collection and analysis tools are often critical. For example, customer expectations and Satisfaction are impacted by how a business advertises its goods or services. Additionally, independent of advertising, a consumer's inflexible ideas about a firm might alter the link between consumer expectations and Satisfaction. Therefore, it is not easy to quantify service quality and customer expectation uncertainty.

### 3.6 Grounded Theory

According to the consumer behavior literature, customer satisfaction is a relative belief continuously measured compared to a standard. As a result, various conflicting hypotheses based on multiple criteria have been proposed to explain consumer satisfaction throughout its evolution. The Expectancy-Disconfirmation Paradigm (EDP), the Value-Percept Theory, the Attribution Theory, the Equity Theory, the Comparison Level Theory, the Evaluation Congruity Theory, the Person-Situation-Fit model, the Performance Importance model, the Dissonance model, and the Contrast model are among the theories. Oliver (1977), building on Helson's 1964 adaption level theory. In addition, Oliver pioneered the Expectancy-Disconfirmation model of customer satisfaction, which has gained widespread recognition among scholars. These frameworks require a conscious comparison of a cognitive state before an event and a later one often recognized after the event (Oliver, 1980).

### 3.7 The Expectancy-Disconfirmation Paradigm

Oliver (1977; 1980) presented the Expectancy-Disconfirmation Paradigm (EDP) as the most viable theoretical framework for assessing customer satisfaction, based on the limitations of the preceding early theories of consumer satisfaction. The model argues that consumers acquire products and services with pre-purchase expectations about their projected performance (Mahmoud et al., 2018). The expectation level then serves as a benchmark for evaluating the product. That is when a user utilizes a product or service, and the user compares results against expectations. Confirmation occurs if the work meets the anticipation. Disconfirmation happens when expectations and results do not match. A consumer is satisfied or dissatisfied due to a positive or negative gap between expectations and perceptions. Thus, when service performance exceeds the customer's original expectations, there is a positive disconfirmation between expectations and performance, resulting in Satisfaction. When service performance is consistent with expectations and perceptions, there is a confirmation between expectations and perceptions, resulting in Satisfaction. In comparison, when service delivery falls short of expectations, there is a negative disconfirmation between expectations and perceptions, resulting in dissatisfaction.

### 3.8 The Evaluation Congruity Theory

According to Sirgy (1984), Satisfaction results from evaluative congruence, a cognitive matching process in which perception is compared to an elicited reference cognition to assess an incentive or action. It is considered that the Outcome of this cognitive process is either a motivational or an emotional state. Customer satisfaction/dissatisfaction is a dynamic state since it compels the customer to consider alternative courses of action to ease a present state of dissatisfaction and achieve a future state of Satisfaction (Sirgy, 1984). According to this concept, there are three states of congruence: negative incongruity, congruity, and positive incongruity. Like the idea of confirmation/disconfirmation, negative incongruity is a cognitive state caused by a negative difference between the valence levels of perception and an elicited reference cognition, resulting in dissatisfaction. Congruence is a cognitive state in which there is no substantial or small difference between a perception and an elicited reference cognition, resulting in a neutral or satisfied assessment state. Finally, a positive incongruity-state occurs when there is a positive disagreement between a perception and an elicited referent cognition, resulting in Satisfaction. Unlike the Expectancy-Disconfirmation Paradigm, Sirgy's model regards customer satisfaction/dissatisfaction due to one or more congruence between perceptual and evoked referent states and asserts that numerous comparisons occur processes may provide a complete explanation for consumer satisfaction. More precisely, the original Evaluative Congruity Model assumes that Satisfaction may be determined by one or more cognitive congruences, such as those between (1) new product performance after use and expected product performance before to use, (2) new product performance after use and old product performance before to use, (3) expected product performance after purchase and ideal product performance before purchase, (4) expected product performance after purchase and deserved product performance after use. These disparities, it is suggested, have an independent effect on a consumer's overall happiness with a product (Sirgy, 1984).

Additionally, Sirgy (1984) offered the Evaluative Congruity model to describe customer satisfaction as a competing paradigm. The Evaluative Congruity Model is a superior framework to the Expectancy-Disconfirmation Model. It can capture the many

stages of satisfaction/dissatisfaction associated with different expectations and performance outcomes. Additionally, several new frameworks for studying customer satisfaction were developed throughout the last several decades, including the Attribution Theory, the Importance-Performance model, and the Equity Theory. It is critical to highlight that some suggested models, such as the Expectancy-Disconfirmation and Evaluation Congruity models, have garnered considerable attention from researchers.

In the current digital era, digital transformation boosts significantly after the COVID-19 pandemic. As a result, most firms decide to move to digital and transform business transactions and customer interaction to digital to meet the current situation and meet customer expectations and needs. To sustain and meet future uncertainty, businesses utilize agility in the current digital trend and digital customer expectation to provide products and services through digital platforms to complete customer satisfaction from interaction platform expectations to perceived usefulness.

This study examines customer satisfaction, and customer behavior outcomes post customer satisfaction feeling resulted from:

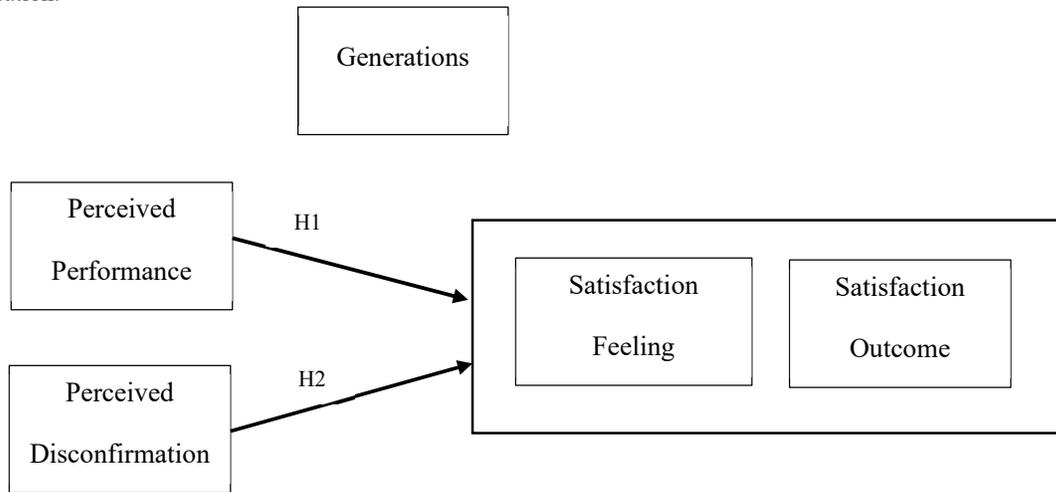
- How customers build expectations on the perceived performance of digital solution interaction with the telecommunication sector
- How customers evaluate the performance post-digital solution interaction with the telecommunication sector in the United Arab Emirates.

In addition, this study aims to explore if there is a difference in the satisfaction level, behavior post satisfaction feeling, expectation pre-digital interaction, and evaluation of post-digital solution interaction with the telecommunication sector in the United Arab Emirates from a different generation perspective.

The study aim aligns with The Expectancy-Disconfirmation Paradigm and The Evaluation Congruity Theory. Therefore, both theories are used as grounded theories of this study.

**4. Conceptual framework and hypothesis development**

Hom (2000) reveals a framework that Woodruff & Gardial, 1996 adapts. The conceptual framework in figure 1 is based on Oliver's definition of customer satisfaction that defines Customer satisfaction as the consumer's reaction to fulfillment. The model determines that a particular element of a product or service, or the product or service itself, supplied (or continues to supply) a pleasant degree of consumption-related Satisfaction, including degrees of under or over-fulfillment. The conceptual framework in figure 1 has three variables and one moderator. The variables are perceived performance, perceived Disconfirmation, satisfaction outcome dimension that contain satisfaction feeling and Satisfaction feeling Outcome, and one moderator, a generation.



**Fig.1.** Traditional Macro-Model of Customer Satisfaction

1. **Perceived performance** often deviates from objective or technical performance, mainly when a product/service is complicated, intangible, or new to the user. It is the expectation pre-interaction.
2. **Generations** may originate from various sources and vary significantly by person, context, and product/service type. In this study, generation type is the comparison standard to examine the difference in expectation, evaluation, level of Satisfaction, and Satisfaction feeling outcome behavior.

3. **Perceived Disconfirmation** is the assessment of perceived performance against one or more benchmarks. Disconfirmation may have a positive impact, a negative impact, or no impact at all based on the perception post interaction or experience.
4. **Satisfaction Feeling** is a mental state, an attitude. It is mixed with human emotion since consumers' satisfaction with various aspects of a product/service experience may vary.
5. **Satisfaction Outcome** may result in repurchase intentions, word-of-mouth (the customer communicating with their network about their approval/disapproval of a product/service), and complaints. Other factors also influence these results. For instance, intense displeasure does not always result in complaint behavior, particularly if the customer perceives that complaining would be fruitless.

#### 4.1 *The impact of perceived performance on perceived Disconfirmation*

Performance has a direct and indirect effect on Satisfaction through Disconfirmation. The link between performance and Disconfirmation is considered positive. Because the more high-performance expectations there are, the more likely they will be exceeded, resulting in positive Disconfirmation (Spreng and Page, 2003). This link shows a beneficial impact on Disconfirmation in tests of Internet-based services (Liu and Khalifa, 2003) and other investigations (Oliver, 2010; Van Ryzin, 2004). Accordingly, the following hypothesis is proposed:

**H<sub>1</sub>.** *Users' perceived performance is positively related to users' Satisfaction.*

##### 4.1.1 *The impact of perceived Disconfirmation on satisfaction Dimension (feeling & Outcome)*

The perceived Disconfirmation is the discrepancy between the original expectation and the observed behavior. When performance exceeds expectations, positive Disconfirmation occurs, but negative Disconfirmation occurs when performance falls short of expectations. Nevertheless, the condition is neutral in other circumstances, with no difference between anticipated and experienced performance (Yi, 1990). When consumers provide positive Disconfirmation, they often use influential positive mood adjectives such as pleased, terrific, and delighted in their feedback. Conversely, when buyers express dissatisfaction with a purchase, they are more likely to use negative adjectives such as lousy, worst, and dissatisfied.

Customers communicate their satisfaction resulting from perceived Disconfirmation through repurchase intentions, word-of-mouth (the customer interaction with their network about their acceptance/rejection of a product/service), written comments, and complaints after the transaction. This kind of feedback contains an emotional word that may be negative, positive, or neutral, depending on the customer's experience with the bought item. These sentimental adjectives, good, harmful, or neutral, are critical for merchants regarding client satisfaction.

Accordingly, the following hypothesis is proposed:

**H<sub>2</sub>.** *Users' perceived disconfirmation post-interaction is positively related to Satisfaction.*

##### 4.1.2 *Generation type*

Since the dawn of history, humankind, as a social creature whose most fundamental need is to contact other people, has shown a tendency for being together, acting together, and uniting. Individuals who live in the same era share the same situations, and similar experiences are impacted by one another. Consequently, persons born, grown, and brought up during the same or comparable eras have comparable features. The persons who coexist by their birth and growing environments, social, economic, cultural circumstances, social situations, and issues of universal interest have common qualities. Scientists invented the phrase "generation" to describe people and their features and researched the concept from this point onward. Within the view of studies, the generation born between 1925 and 1945 was labeled the 'Traditionalists' quiet generation and was not extensively studied and with little influence. The generation born after World War II is known as the 'Baby Boomers.' Members of this generation were born between 1946 and 1964 and are retired or about to retire. The primary objective of the generation born between 1965 and 1979, labeled the 'X Generation.' Today, members of this age play an active part in social and commercial life. The generation born between 1980 and 2001, generally referred to as 'Millennials' or the 'Y generation,' are the offspring of globalization. Technology is a cornerstone of existence for youngsters of this age who have grown up with the advancement and accessibility of technology. Today, the Y generation, which plays a significant role in business. The technology generation is the most recent, called the 'Z generation,' born between 2000 and 2020 (Berkup, 2014). Some scholars divided the 'Z generation' into two, 'Z generation' born between 1995 and 2012 and 'Alpha generation' born between 2013 and 2025. Although this generation views technology as important, businesses will need to prepare for this generation within the next decade. Table 1

This study uses generations as a comparison standard in the conceptual framework since each generation has its features and characteristics. Thus, the expectation of digital interaction, digital evaluation post-interaction, emotional satisfaction feeling, and satisfaction feeling outcome has the disparity between generations.

**Table 1**  
The information of generation name

Generation Name	Births Start	Births End	Youngest Age Today*	Oldest Age Today*
The Silent Generation	1925	1945	76	96
Baby Boomer Generation	1946	1964	57	75
Generation X	1965	1979	42	56
Generation Y	1980	1994	27	41
Generation Z	1995	2012	9	26
Generation Alpha	2013	2025	1	8

## 5. Methodology

### 5.1 Research Model

Fig. 1 illustrates the research paradigm that underpins this work. The development of the model uses the Expectancy-Disconfirmation and Evaluation Congruity theories. The model demonstrates that pre-usage expectations of systems and post-usage experience and benefit directly influence Satisfaction feeling and Satisfaction feeling Outcome. Additionally, the model describes the link between expectations, perceived performance, perceived Disconfirmation, satisfaction feeling, and satisfactory Outcome, following the Expectancy-Disconfirmation and Evaluation Congruity theories. Finally, the model demonstrates that these factors impact one another directly or indirectly, eventually affecting the satisfaction dimension (satisfaction feelings and outcomes). Two assumptions investigate the relations of this model: letters H and a unique numerical value given to each of the proposed hypotheses.

**H1.** Users' perceived performance is positively related to users' Satisfaction.

**H2.** Users' perceived disconfirmation post-interaction is positively related to Satisfaction.

The items used to conceptualize the model's components were mainly acquired from earlier research and adjusted for consumer views, as shown in Table 2.

**Table 2**  
The model components

Construct & Items	Scale	Source
Generations <ul style="list-style-type: none"> <li>• 1925 – 1945</li> <li>• 1946 – 1964</li> <li>• 1965 – 1979</li> <li>• 1980 – 1994</li> <li>• 1995 – 2012</li> </ul>	Year of Birth To capture the generation	Hom (2000) Berkup (2014)
Perceived performance <ul style="list-style-type: none"> <li>• Using Etisalat/du digital channel improved my performance in dealing with telecommunication companies.</li> <li>• Using Etisalat/du digital channel increased my productivity in dealing with telecommunication companies.</li> <li>• Using Etisalat/du digital channel enhanced my effectiveness in dealing with telecommunication companies.</li> <li>• Overall, using Etisalat/du digital channel is useful in dealing with telecommunication companies.</li> </ul>	Five-point Likert scale	Hom (2000) Kim et al. (2009)
Perceived Disconfirmation <ul style="list-style-type: none"> <li>• My experience with using Etisalat/du digital channel was better than what I expected.</li> <li>• The information provided by Etisalat/du digital channel was better than I expected.</li> <li>• Overall, most of my expectations are fulfilled from using Etisalat/du digital channel.</li> </ul>	Five-point Likert scale	Hom (2000) Qazi et al. (2017)
Satisfaction Feeling <ul style="list-style-type: none"> <li>• Using Etisalat/du digital channel makes me feel very satisfied.</li> </ul>	Five-point Likert scale	Hom (2000) Qazi et al. (2017)
Satisfaction outcome <ul style="list-style-type: none"> <li>• Using Etisalat/du digital channel makes me feel very connected with others.</li> <li>• Using Etisalat/du digital channel makes me feel pleased with others.</li> </ul>	Five-point Likert scale	Hom (2000) Qazi et al. (2017)

### 5.2 Data Measurement

The instrument in this research consists of a structured questionnaire formed of four sections: an introduction, a year of birth to serve as a baseline for comparison standard, perceived performance, perceived Disconfirmation, satisfaction feeling, and

Satisfaction feeling Outcome. A literature review (Hom, 2000) develops the conceptual study framework and (Kim et al., 2009; Qazi et al., 2017). The scale for the first question, year of birth, is based on the literature (Berkup, 2014). The scale for the other questions is a five-point Likert scale, ranging from strongly disagree (1) to disagree (2), neither agree nor disagree (3), agree (4), and highly agree (5). Following that, two telecommunications professionals pre-tests the questionnaire. The respondents were requested to provide feedback on the construct items' content, understandability, contextual relevance, question sequence, and Arabic translation. The pre-pilot-testing processes resulted in a few small adjustments to the questionnaire. After making minor adjustments, the questionnaire was examined one more time by two telecommunications specialists. Following that, an online survey was sent to gather data for the study model. Table 2 shows the instrument details.

### 5.3 Data Collection

LinkedIn, social networking platforms, and one of Dubai's universities were targeted to circulate the survey. The invitation to participate contains a hyperlink to a questionnaire and a short description of the study's goal—the study constructed using Google form technology. The broadcasts took place between 24 and 31 May 2021. In total, 130 replies were received. Thus, the sample size formed a ratio of 13:1.

## 6. Data Analysis and discussion

### 6.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) explores the relationship among the conceptual framework variables that do not have a prior fixed number of factors. Exploratory Factor Analysis (EFA) is to test research study instruments.

### 6.2 KMO statistic (Kaiser Meyer Olkin)

The KMO forecasts whether data are likely to factor well based on correlation and partial correlation to measure sampling adequacy. KMO may be used to determine which variables should be excluded from factor analysis due to their lack of multicollinearity. This study shows a KMO coefficient of 0.862 as a measure of sampling adequacy, interpreted by tremendous variation in the variables (See Appendix 1). The number of factors was reduced from four to three after the dimension reduction test, and the Satisfaction feeling variable was excluded as it was loading on two factors simultaneously (See Appendix 2).

### 6.3 The Bartlett of sphericity

The Bartlett of sphericity test is used to determine whether or not the correlation between the 10 study items has an identity matrix. The null hypothesis (there is no impact on customer perceived performance and perceived Disconfirmation on customer satisfaction outcome from the digital solution of the telecommunication sector in the United Arab Emirates) is rejected since the p-value is 0.000, smaller than  $\alpha$ , which is 0.05.  $P\text{-value} < \alpha$  (See Appendix 1).

### 6.4 Factor Loading

The final look of the factors and variables is in the Rotated Component Matrix (Appendix 3), which shows the factor loading of each variable on each factor. Also, it indicates how participants understand the meaning of the question and how they are rating them.

### 6.5 Latent Root Criterion & Percentage of Variance Criterion

Any individual factor should account for the variance of at least a single variable if it is retained for interpretation and measured by eigenvalue. In this study, two factors' eigenvalue is above one with a total variance of 77%. Although the third-factor eigenvalue is below one, it is considered since its variance is around 6.6% explanation of the factor. Thus, the total variance explained by the three factors is approximately 84% (See Appendix 4).

### 6.6 Scree Plot

The number of factors further confirmed the Scree Plot (See Appendix 5) that shows the maximum number of factors to reach the maximum percentage of variance criterion. In this study, the Scree Plot cut-off point is between three to four factors.

### 6.7 Cronbach Alpha

Cronbach's Alpha measures internal consistency or the degree to which a collection of variables is correlated. Thus, it is a metric of scale dependability. In this study, Cronbach Alpha's factors are between 0.85 and 0.92, showing good to excellent reliability of variables within each factor.

### 6.8 Multi Regression Analysis

Multi Regression Analysis examines the validity of the conceptual framework model and the most variables impact or depend on the dependent variable.

### 6.9 $R^2$

R Square is an indicator of how well the prediction model fits the data. R-squared ( $R^2$ ) is a statistic that indicates the amount of variation explained by an independent variable or variables in a regression model. In this study, 52% of the data fit the regression model (see Appendix 7.2).

### 6.10 ANOVA

The ANOVA test shows that independent variables are significant on the dependent variable (see Appendix 8).

### 6.11 Coefficient the Significant of each Variable

The coefficients express the mathematical connection between the independent and dependent variables. The p-values for the coefficients show the statistical significance of these correlations. For example, Appendix 9.1 shows that the factor Perceived Performance is insignificant. In contrast, the factor Perceived Disconfirmation is significant, but an attempt to remove the Perceived Performance factor off the  $R^2$  dropped to 52% from 53%. Therefore, the element Perceived Disconfirmation is significant (see Appendix 9.2).

### 6.12 Residual Analysis

By defining residuals and reviewing residual plot graphs, residual analysis is used to determine the adequacy of a linear regression model. Also, Residual analysis defines the disparity between the observed and anticipated values of the dependent variable ( $y$ ) as the residual ( $e$ ). Each data point is associated with a single residual. The residuals' total and mean are both equal to zero. Residuals are the variances between the model's one-step predicted output and the validation data set's observed output. Thus, residuals indicate the fraction of validation data that the model does not explain. This study shows a leaner acceptable residual analysis (see Appendix 10, 11, 12).

### 6.13 Simple Regression

Simple linear regression is a statistical technique that analyzes and summarizes associations between two continuous independent variables with the dependent variable. In this study, the Simple Regression test shows a positive linear correlation between the following independent variables Perceived Performance and Perceived Disconfirmation 0.554 and 0.726 consecutively with the dependent variable Satisfaction outcome (see Appendix 13).

### 6.14 One Way ANOVA (Generation relation with the factors)

Testing the link between different participants' generations with the study factors. One Way ANOVA testing reveals that the factors' p-value associated with the generations is higher than the Alpha p-value  $> \alpha$  (see Appendix 14). Thus, the relation results failed to reject the null hypothesis ( $H_0 =$  There is no difference between customers' different generations and the telecommunication sector digital solution from perceived performance, perceived Disconfirmation, and satisfaction outcome).

## 7. Recommendation

Achieving effectiveness and efficiency is another challenge in the digital era. Firms need to boost the utilization of the digital platform to increase efficiency and meet return on investment. Therefore, firms' leaders should think broader on the need and expectations of their customers to fulfill customer attractions and achieve satisfaction. Customer satisfaction is one of the fundamental strategic objectives of every organization and business. Many studies reveal a strong correlation between customer satisfaction and repurchase intention, word of mouth, market reputation, and customer loyalty. In addition, service quality leads to customer satisfaction, and customer satisfaction is reached when service quality meets customer expectations. Thus, businesses should continue to evaluate their customer digital experience needs and expectations through collecting feedback to increase satisfaction, revenue and introduce new business opportunities to achieve efficiency and effectiveness.

## 8. Conclusion, limitation & future research

This study examines the relation and impact of perceived customer expectation before using a digital solution of the telecommunication sector in the United Arab Emirates and the perceived experience after using a digital resolution of the telecommunication sector and its impact on customer satisfaction. The study revealed a solid relationship between customer expectation and customer experience on the satisfaction level of citizens in the United Arab Emirates from their utilization or inter-

action with the digital solution of the telecommunication sector. Various literature demonstrates a varying degree of involvement, anticipation, and acceptance of digital solutions and technology by past human generations. This research illustrates that each generation has a distinct degree of expectation and perceived experience with digital solutions in the telecommunications industry in the United Arab Emirates. Since all ages showed strong relationships between the amount of anticipation that equals or surpasses the degree of experience experienced from the telecommunications sector's digital solution, which signals a fair degree of satisfaction. The result of the study is in complete alignment with the Expectancy-Disconfirmation Paradigm and the Evaluation Congruity Theories. The study did not segregate the survey to examine different telecommunication sectors in the United Arab Emirates entities separately as customer responses were blinded. However, there is a vast difference between the digital solution capabilities of various telecommunication sector entities in the United Arab Emirates. Suggest future studies to examine customer satisfaction level of the digital solution of the telecommunication sector in the United Arab Emirates for different telecommunication sectors separately and consider more demographic independent variables.

## References

- Ahmed, A., Alshurideh, M., Al Kurdi, B., & Salloum, S. A. (2020, October). Digital transformation and organizational operational decision making: a systematic review. *In International Conference on Advanced Intelligent Systems and Informatics (pp. 708-719)*. Springer, Cham.
- Al Kurdi, B., Alshurideh, M., & Salloum, S. A. (2020). Investigating a theoretical framework for e-learning technology acceptance. *International Journal of Electrical and Computer Engineering (IJECE)*, 10(6), 6484-6496.
- Alghawi, A. (2019). Telecommunications Regulation in the UAE: The Interconnectedness of Better Governance and Regulatory Performance. Master Thesis. United Arab Emirates University. Available at: [https://scholarworks.uaeu.ac.ae/poli\\_sci\\_theses/10](https://scholarworks.uaeu.ac.ae/poli_sci_theses/10)
- AlHamad, A., Alshurideh, M., Alomari, K., Kurdi, B., Alzoubi, H., Hamouche, S., & Al-Hawary, S. (2022). The effect of electronic human resources management on organizational health of telecommunication companies in Jordan. *International Journal of Data and Network Science*, 6(2), 429-438.
- Allozi, A., Alshurideh, M., AlHamad, A., & Al Kurdi, B. (2022) Impact of transformational leadership on the job satisfaction with the moderating role of organizational commitment: case of UAE and Jordan manufacturing companies. *Academy of Strategic Management Journal*, 21(Special Issue 2), 1-13.
- Al-Marouf, R., Ayoubi, K., Alhumaid, K., Aburayya, A., Alshurideh, M., Alfaisal, R., & Salloum, S. (2021). The acceptance of social media video for knowledge acquisition, sharing and application: A comparative study among YouTube users and TikTok users' for medical purposes. *International Journal of Data and Network Science*, 5(3), 197-214.
- Alshurideh, M., Al Kurdi, B., & Salloum, S. A. (2019a). Examining the main mobile learning system drivers' effects: A mix empirical examination of both the Expectation-Confirmation Model (ECM) and the Technology Acceptance Model (TAM). *In International Conference on Advanced Intelligent Systems and Informatics (pp. 406-417)*. Springer, Cham.
- Alshurideh, M., Salloum, S. A., Al Kurdi, B., Monem, A. A., & Shaalan, K. (2019b). Understanding the quality determinants that influence the intention to use the mobile learning platforms: A practical study. *International Journal of Interactive Mobile Technologies*, 13(11), 183-157.
- Alzoubi, H. M., & Inairat, M., Alshurideh, M. (2020). Do perceived service value, quality, price fairness and service recovery shape customer satisfaction and delight? A practical study in the service telecommunication context. *Uncertain Supply Chain Management*, 8(3), 579-588.
- 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. *International Journal of Data and Network Science*, 6(2), 449-460.
- Asha'al, N., Obeidat, B., & Alhmoud, H. (2019). A theoretical study on the impact of strategic orientation on organizational performance: Examining the mediating role of learning culture in Jordanian telecommunication companies. *Journal of Social Sciences (COES&RJ-JSS)*, 8(1), 24-40.
- Ashal, N., Alshurideh, M., Obeidat, B., Masa'deh, R. (2021) The impact of strategic orientation on organizational performance: Examining the mediating role of learning culture in Jordanian telecommunication companies. *Academy of Strategic Management Journal*, 21 (Special Issue 6), 1-29.
- Berkup, S.B. (2014). Working with generations X and Y in generation Z period: Management of different generations in business life. *Mediterranean Journal of Social Sciences*, 5(19), 218-218.
- Bloomberg, J. (2018). Digitization, Digitalization, and digital transformation: confuse them at your peril. *Forbes*. Retrieved on August, 28, 1-6.
- Gebayew, C., Hardini, I.R., Panjaitan, G.H.A. and Kurniawan, N.B. (2018). A systematic literature review on digital transformation. *In 2018 International Conference on Information Technology Systems and Innovation (ICITSI)* (pp. 260-265). IEEE.
- Hayajneh, N., Suifan, T., Obeidat, B., Abuhashesh, M., Alshurideh, M., & Masa'deh, R. (2021). The relationship between organizational changes and job satisfaction through the mediating role of job stress in the Jordanian telecommunication sector. *Management Science Letters*, 11(1), 315-326.
- Herath, H.M.A.K. and Herath, H.M.S.P. (2019). Impact of Green Banking Initiatives on Customer Satisfaction: A Conceptual Model of Customer Satisfaction on Green Banking. *Journal of Business Management*, 21, 24-35.

- Hom, W. (2000). An Overview of Customer Satisfaction Models. Presented at the Annual Meeting of the Research and Planning Group for California Community Colleges (38th, Pacific Grove, CA, April 26-28, 2000), 1-13.
- Lee, K., Azmi, N., Hanaysha, J., Alzoubi, H., & Alshurideh, M. (2022). The effect of digital supply chain on organizational performance: An empirical study in Malaysia manufacturing industry. *Uncertain Supply Chain Management*, 10(2), 495-510.
- Leo, S., Alsharari, N. M., Abbas, J., & Alshurideh, M. T. (2021). From Offline to Online Learning: A Qualitative Study of Challenges and Opportunities as a Response to the COVID-19 Pandemic in the UAE Higher Education Context. *The Effect of Coronavirus Disease (COVID-19) on Business Intelligence*, 334, 203-217.
- Liu, V., & Khalifa, M. (2003). Determinants of satisfaction at different adoption stages of Internet-based services. *Journal of the association for information systems*, 4(1), 206-232.
- Mahmoud, M.A., Hinson, R.E. and Anim, P.A. (2018). Service innovation and customer satisfaction: the role of customer value creation. *European Journal of Innovation Management*, 21(3), 402-422.
- Mergel, I., Edelman, N. and Haug, N. (2019). Defining digital transformation: Results from expert interviews. *Government Information Quarterly*, 36(4), p.101385.
- Ministry of Economy. (2019). ANNUAL ECONOMIC REPORT 2019. Retrieved 10<sup>th</sup> November 2020 from [https://www.economy.gov.ae/EconomicalReportsEn/MOE\\_Annual%20Economic%20Report\\_2019\\_.pdf](https://www.economy.gov.ae/EconomicalReportsEn/MOE_Annual%20Economic%20Report_2019_.pdf)
- Obeidat, B., Al-dalahmeh, M., & Masa'deh, R. (2015). The role of knowledge management infrastructure in enhancing innovation at mobile telecommunication companies in Jordan. *European Journal of Social Sciences*, 50(3), 313-330.
- Obeidat, U., Obeidat, B., Alrowwad, A., Alshurideh, M., Masadeh, R., & Abuhashesh, M. (2021). The effect of intellectual capital on competitive advantage: the mediating role of innovation. *Management Science Letters*, 11(4), 1331-1344.
- Odeh, R. B. M., Obeidat, B. Y., Jaradat, M. O., & Alshurideh, M. T. (2021). The transformational leadership role in achieving organizational resilience through adaptive cultures: the case of Dubai service sector. *International Journal of Productivity and Performance Management*.
- Oliva, T.A., Oliver, R.L. and MacMillan, I.C. (1992). A catastrophe model for developing service satisfaction strategies. *Journal of marketing*, 56(3), 83-95.
- Oliver, R.L. (2010). Customer satisfaction. Wiley International Encyclopedia of Marketing.
- Oliver, R.L. (1977). Effect of expectation and Disconfirmation on postexposure product evaluations: An alternative interpretation. *Journal of applied psychology*, 62(4), p.480.
- Oliver, R.L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 17(4), 460-469.
- PORTULANS Institute. (2019). NRI 2019 countries. Retrieved 8th November 2020 from <https://networkreadiness-index.org/2019/nri-2019-countries/#complete-ranking>
- Qazi, A., Tamjidyamcholo, A., Raj, R.G., Hardaker, G. and Standing, C. (2017). Assessing consumers' satisfaction and expectations through online opinions: Expectation and disconfirmation approach. *Computers in Human Behavior*, 75, 450-460.
- Reinartz, W., Wiegand, N., & Imschloss, M. (2019). The impact of digital transformation on the retailing value chain. *International Journal of Research in Marketing*, 36(3), pp.350-366.
- Sirgy, J. M. (1984). A social cognition model of CS/D: an experiment, *Psychology, and Marketing*, 1, 27-44.
- Spreng, R.A., & Page Jr, T.J. (2003). A test of alternative measures of Disconfirmation. *Decision Sciences*, 34(1), 31-62.
- Suleman, M., Soomro, T. R., Ghazal, T. M., & Alshurideh, M. (2021, June). Combating Against Potentially Harmful Mobile Apps. In *The International Conference on Artificial Intelligence and Computer Vision* (pp. 154-173). Springer, Cham.
- Sweis, R., Obeidat, B., & Kanaan, R. K. (2019). Reviewing the literature on total quality management and organizational performance. *Journal of Business & Management (COES&RJ-JBM)*, 7(3), 192-215.
- Tariq, E., Alshurideh, M., Akour, I., & Al-Hawary, S. (2022) The effect of digital marketing capabilities on organizational ambidexterity of the information technology sector. *International Journal of Data and Network Science*, 6, 1-8.
- The National Academies Press. (2006). *The Importance of Telecommunications and Telecommunications Research*. Retrieved 9th November 2020 from <https://www.nap.edu/read/11711/chapter/3>
- TRA. (2017). TRA signs a MOU with “Etisalat” and “du”. Retrieved 8th November 2020 from <https://www.tra.gov.ae/en/media-hub/press-releases/2017/5/8/tra-signs-a-mou-with-etisalat-and-du.aspx>
- TRA. (2020). ABOUT TRA | VISION, MISSION & VALUES. Retrieved 8th November 2020 from <https://www.tra.gov.ae/en/about-tra/about-tra-vision-mission-and-values.aspx>
- TRA. (2020). Tra initiative in response to Covid-19. Retrieved 8th November 2020 from <https://www.tra.gov.ae/en/about-tra/tra-initiatives-in-response-to-covid-19.aspx>
- Van Ryzin, G.G. (2004). Expectations, performance, and citizen satisfaction with urban services. *Journal of policy analysis and management*, 23(3), 433-448.
- Von Leipzig, T., Gamp, M., Manz, D., Schöttle, K., Ohlhausen, P., Oosthuizen, G., Palm, D., & Von Leipzig, K. (2017). Initialising customer-orientated digital transformation in enterprises. *Procedia Manufacturing*, 8, 517-524.
- Yi, Y. (1990). A critical review of consumer satisfaction. *Review of marketing*, 4(1), 68-123.
- Zouari, G., & Abdelhedi, M. (2021). Customer satisfaction in the digital era: evidence from Islamic banking. *Journal of Innovation and Entrepreneurship*, 10(1), 1-18.
- Zu'bi, Z., Al-Lozi, M., Dahiyat, S., Alshurideh, M., & Al Majali, A. (2012). Examining the effects of quality management practices on product variety. *European Journal of Economics, Finance and Administrative Sciences*, 51(1), 123-139.

**Appendix**

**A1.**

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.862
Bartlett's Test of Sphericity	Approx. Chi-Square	932.001
	df	36
	Sig.	.000

**A2.**

**Rotated Component Matrix<sup>a</sup>**

	Component			
	1	2	3	4
Perceived Performance 3	.873			
Perceived Performance 4	.856			
Perceived Performance 2	.844			
Perceived Performance 1	.664			.602
Perceived Disconfirmation 2		.823		
Perceived Disconfirmation 3		.794		
Perceived Disconfirmation 1		.721		
Satisfaction Feeling		.621	.519	
Satisfaction Outcome 1			.888	
Satisfaction Outcome 2			.754	

**A3.**

**Rotated Component Matrix<sup>a</sup>**

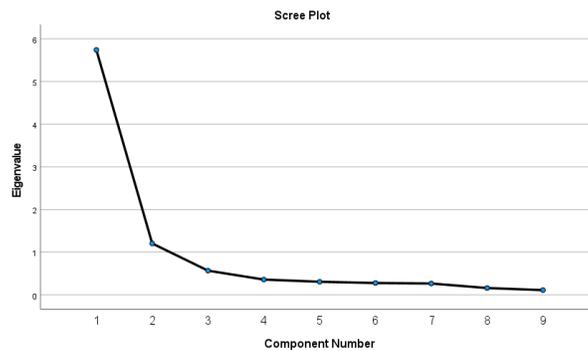
	Component		
	1	2	3
Perceived Performance 3	.887		
Perceived Performance 4	.860		
Perceived Performance 2	.842		
Perceived Performance 1	.759		
Perceived Disconfirmation 2		.835	
Perceived Disconfirmation 1		.786	
Perceived Disconfirmation 3		.773	
Satisfaction Outcome 1			.888
Satisfaction Outcome 2			.752

**A4.**

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.740	63.783	63.783	5.740	63.783	63.783
2	1.205	13.394	77.176	1.205	13.394	77.176
3	.568	6.313	83.490	.568	6.313	83.490
4	.359	3.993	87.483			
5	.308	3.422	90.905			
6	.279	3.097	94.003			
7	.267	2.964	96.966			
8	.161	1.789	98.755			
9	.112	1.245	100.000			

**A5.**



**A6.**

Reliability Statistics		
Factor	Cronbach's Alpha	N of Items
Perceived Performance	.923	4
Perceived Disconfirmation	.892	3
Satisfaction Outcome	.859	2

**A7.1.**

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.734 <sup>a</sup>	.539	.531	1.33424

**A7.2.**

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726 <sup>a</sup>	.527	.523	1.34587

**A8.**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	258.113	1	258.113	142.496	.000 <sup>b</sup>
	Residual	231.856	128	1.811		
	Total	489.969	129			

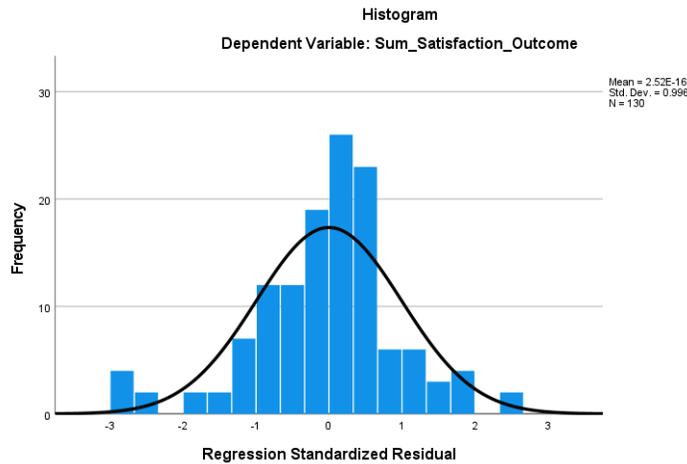
**A9.1.**

Coefficients <sup>a</sup>				Collinearity Statistics	
Model		Sig.		Tolerance	VIF
1	(Constant)	.082			
	Sum Perceived Performance	.074		.577	1.733
	Sum Perceived Disconfirmation	.000		.577	1.733

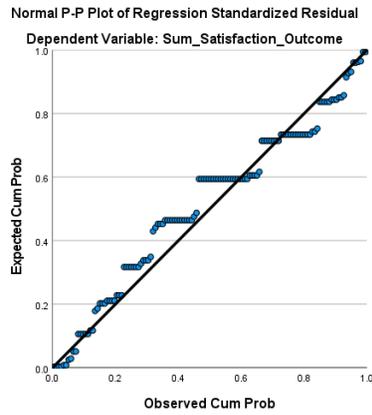
**A9.2.**

Coefficients <sup>a</sup>				Collinearity Statistics	
Model		Sig.		Tolerance	VIF
1	(Constant)	.002			
	Sum Perceived Disconfirmation	.000		1.000	1.000

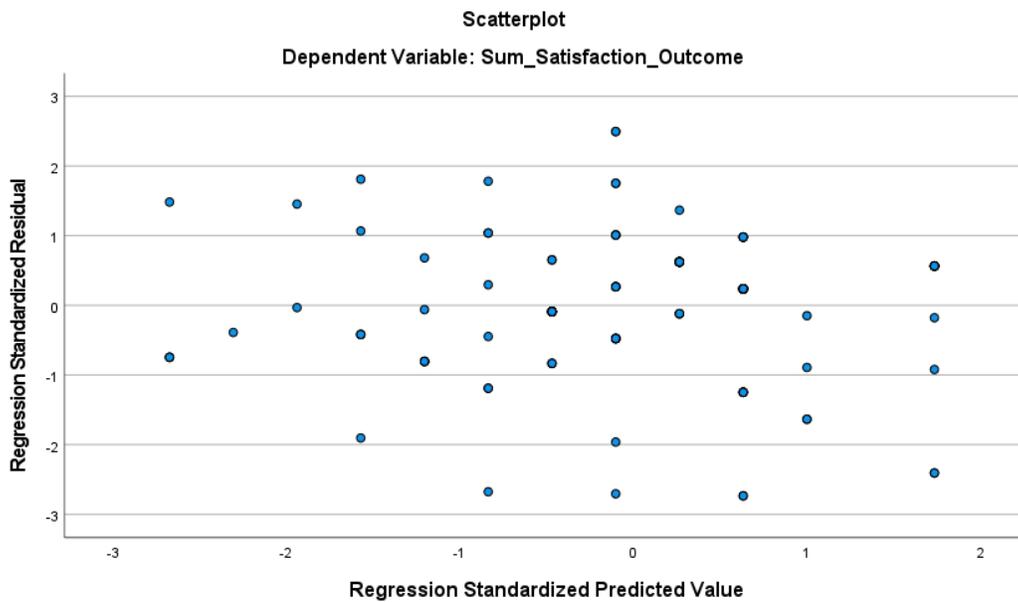
**A10.**



A11.



A12.



A13.

**Correlations**

		Sum Satisfaction Outcome
Sum_Perceived_Performance	Pearson Correlation	.554**
	Sig. (2-tailed)	.000
	Sum of Squares and Cross-products	488.708
	Covariance	3.788
	N	130
Sum_Perceived_Disconfirmation	Pearson Correlation	.726**
	Sig. (2-tailed)	.000
	Sum of Squares and Cross-products	496.754
	Covariance	3.851
	N	130
Sum_Satisfaction_Outcome	Pearson Correlation	1
	Sig. (2-tailed)	
	Sum of Squares and Cross-products	489.969
	Covariance	3.798
	N	130

**A14**

		Sig.
Sum_Perceived_Performance	Between Groups	.190
	Within Groups	
	Total	
Sum_Perceived_Disconfirmation	Between Groups	.881
	Within Groups	
	Total	
Sum_Satisfaction_Outcome	Between Groups	.337
	Within Groups	
	Total	



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