

The Impact of Technology Readiness on Customer Satisfaction in the Algerian E-Commerce Context

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Abstract

Globally, digital technologies have dramatically reshaped the e-commerce landscape, especially impacting customer behaviors in online shopping. In less developed markets like Algeria, e-commerce is rapidly gaining traction, yet customer satisfaction poses significant challenges due to factors such as varying technological literacy and trust issues. This paper investigates technology readiness, an indicator of individuals' willingness to adopt new technologies, and its relationship with customer satisfaction in Algeria's e-commerce setting. Utilizing qualitative research, it reviews prior studies and develops a conceptual framework based on the Technology Readiness Index (TRI) and Expectation-Confirmation Theory (ECT). The framework elucidates the interconnections among customer satisfaction, innovation capacity, discomfort, insecurity, and overall satisfaction in online shopping contexts. The study offers a theoretical exploration of technology readiness and its impacts on customer satisfaction while also providing practical insights aimed at e-commerce stakeholders and policymakers. These insights seek to enhance customer satisfaction through better technology design, customer education, and digital inclusivity, supporting Algeria's broader digital transformation initiatives. This research contributes to the academic theory and

practical understanding of technology readiness and customer satisfaction in the digital market.

Keywords: Technology Readiness, Customer Satisfaction, E-commerce, Algeria, Technology Readiness Index (TRI)

Introduction

The e-commerce sector in Algeria has witnessed rapid growth in recent years, thanks to digital transformation, increased internet penetration, and changing consumer behavior, with consumers increasingly relying on digital platforms to purchase goods and services (Gourida, 2022). Customer satisfaction is now one of the most important metrics used by e-commerce companies to evaluate their performance and market viability, given its pivotal role in building customer loyalty, enhancing brand image, and strengthening competitive advantage. Technological readiness is a very important factor when it comes to determining a person's attitude and behavior towards the e-commerce environment, in this case. It is a reflection of how members of a society have the technical skills necessary to a certain extent, and their willingness to accept and use the new technology efficiently and confidently.

The e-commerce sector in Algeria expanded to 76.9% in 2023, mainly due to the development of information and communication technologies and better internet access (El-Hajj et al., 2024) Nevertheless, the rate at which the Algerian population adopts this technology remains low when compared to developed countries, and the contribution of this sector to the GDP of Algeria was only 0.8% in 2023 (Tiour et al., 2024). The graph below shows the number of e-commerce users in Algeria from 2020 to 2025.

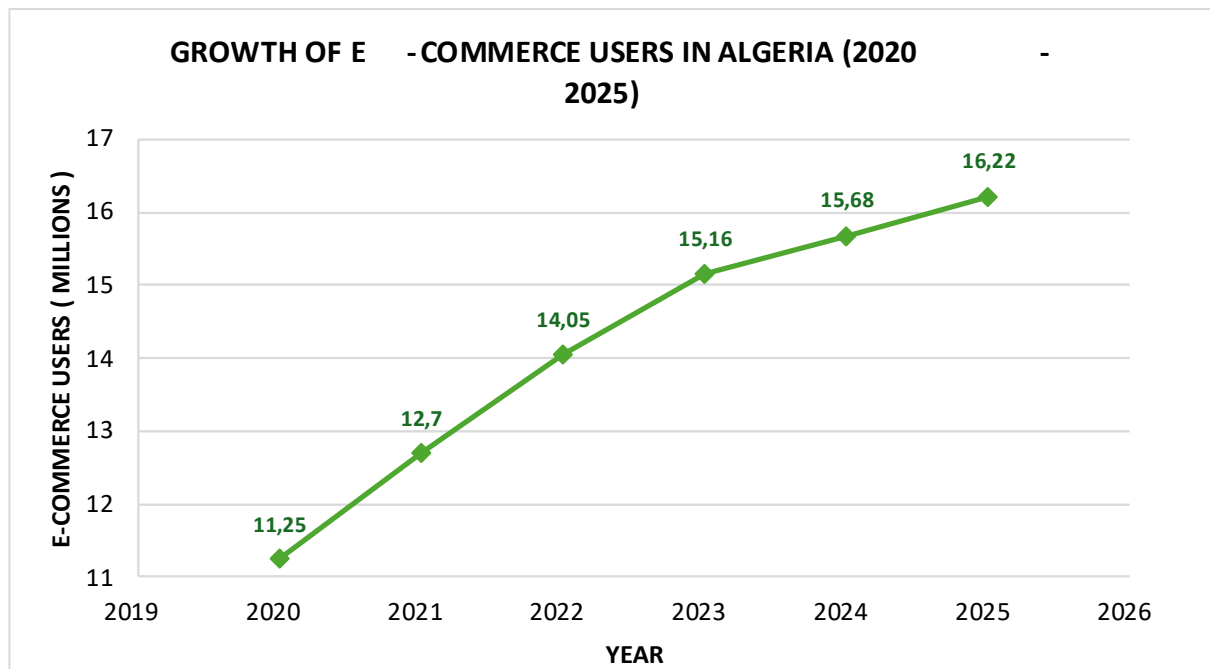


Figure 1: Number of E-commerce Users in Algeria (2020-2025)

Source: Statista Research Department. (2025)

As indicated in the graph, there was a continuous rise in the number of e-commerce users in Algeria from 2020 to 2025. This demonstrates the continuous improvement in the penetration of the internet and online payment systems, and the level of consumer

awareness of online shopping platforms. Despite the challenges, the Algerian market has the potential to grow in the future.

Technology readiness plays an important role in customers' reactions to digital services (Kim & Chiu, 2019). The main components of this concept include the customers' positive attitude towards technology (optimism and innovation) on the one hand, and their negative feelings of discomfort and insecurity on the other. These four factors mainly influence the customers' decision to be ready for the technology, their evaluation of the quality of the e-services, and finally, their overall satisfaction level (Cruz-Cárdenas et al., 2021). In the Algerian situation, there are very few studies that have linked technology readiness and customer satisfaction in e-commerce (Bachir et al., 2024). However, it should be noted that this sector has grown quite well (Benali et al., 2025). Therefore, this is a reason to carry out a thorough and detailed study of this topic.

This study contributes to bridging the gap in understanding the relationship between customer technological readiness and satisfaction, particularly in the Algerian context, which is influenced by issues of e-trust, digital security, and varying levels of customer technological readiness (Noria, 2024). Furthermore, the findings of this research provide e-commerce companies with a deeper understanding of customers' technological characteristics, representing a significant step towards developing new, more customer-centric strategies (Mohamed El-Hajj et al., 2024), thereby improving user experience, increasing customer satisfaction, and building a loyal customer base.

On the one hand, this study opens new horizons in the world of digital consumer behavior, allowing a greater number of academics to explore it. On the other hand, it aims to assist e-commerce managers and their teams by providing them with practical indicators to help them design their services in a way that ensures customer satisfaction, while taking into account their technical requirements (Farah, 2024). Therefore, the main objective of this research is to study how technological readiness affects customer satisfaction in the Algerian e-commerce environment, intending to provide a deeper scientific and practical perspective on this important and rapidly evolving field (Houache et al., 2020).

Literature Review

Customer Satisfaction

Businesses have long recognized customer satisfaction as a crucial component of their success. A thorough assessment that takes into account the full experience of buying and using a product or service over a prolonged period is known as consumer satisfaction (Shah, 2024; Miao, 2022). Marketing and customer satisfaction are related in that customer satisfaction examines customers' expectations about the items and services organizations deliver. Therefore, it is essential to have practical experience to improve client satisfaction (Mittal, 2013). In summary, customer retention, satisfaction, and product repurchase must all be covered in any business plan. To increase customer satisfaction, businesses should promote concepts and procedures when the required documentation is completed (Wani et al., 2023). When purchasing an automobile, buyers consider several factors, such as the model, mileage, engine performance, and chip quality. Those who buy it are not disappointed. However, achieving or exceeding customer satisfaction mostly relies on the product and all of its attributes, capabilities, dependability, sales activity, and customer

support (Biscaia et al., 2017). Customers are more likely to come back if they are happy with their purchases. In addition to making larger purchases, they serve as a network to exchange stories and build relationships with other possible clients (Joudeh & Dandis, 2018). Keeping an existing client is ten times less expensive than acquiring a new one. Maintaining positive relationships with new clients is essential once you have their business. In order to satisfy customers and maintain a stable position in the twenty-first century, it is imperative to offer superior products and services. Customers have benefited greatly from purchasing high-quality goods (Huang et al., 2019).

Customers frequently seek value in the entire service, necessitating internal coordination between departments that handle various aspects of the provision, including documentation, the product's core offering (goods or services), and so on (Munawar & Mahaputra, 2022). Furthermore, only actions that increase productivity and profitability for consumers should be taken. Compared to earlier times, businesses now need to know a lot more about their clients. However, to obtain feedback, the business must establish a trustworthy relationship with the client. In this way, a customer-focused product or service is created (San et al., 2020).

Customer satisfaction is characterized by dynamism and reliability. "Customer focus" is the secret to improving customer satisfaction and loyalty (Lelo & Israel, 2024). In 2022, Indriastuti et al. On the other hand, if customers are more satisfied, competitors can lose business. When trying to improve consumer satisfaction, it's imperative to take their expectations into account (Indriastuti et al., 2022). Customer satisfaction, product quality, and value for money are all directly related to one another. Employee satisfaction is equally as vital as consumer pleasure. Employees' good contributions could significantly increase client happiness. Satisfaction is a dynamic, ever-changing goal that is impacted by many different aspects (Manurung et al., 2024). Depending on where one is in the usage cycle or experience, the level of satisfaction might vary significantly, especially when using a product or service gradually. Customer satisfaction is determined by the unique qualities of a good or service as well as the customer's assessment of its quality (Kadri et al., 2021). Their attitudes, feelings, and sense of justice all affect how satisfied customers are. Numerous advantages, such as client loyalty, longer client life cycles, longer product shelf lives, and more positive customer word-of-mouth advertising, may result from raising customer satisfaction. When customers are satisfied with a product or service, they are more likely to tell others about it and buy more. Businesses cannot succeed if they ignore their clients' needs (Lepistö et al., 2024) .

Table 1

Customer Satisfaction Definition

Author	Definition
(Alicia & Buntu Lailita, 2024)	When a person compares the performance of a product or perceived outcomes to expectations, their feelings of happiness or disappointment are known as customer satisfaction. The client will not be satisfied if the performance or experience does not meet their expectations. A customer is satisfied if their expectations are met. If it surpasses expectations, the customer is ecstatic.
(Sayed & Ahmed, 2023)	"An after-purchase evaluation of customer satisfaction occurs when the perceived performance of the substitute product or service selected equals or exceeds pre-purchase expectations. Customer satisfaction is a crucial component in boosting a business's marketing performance since it can increase the volume of purchases made by these customers.
(Andri et al., 2022)	Customer satisfaction is the feeling of satisfaction or dissatisfaction that arises from comparing the performance (results) that are thought to be the outcome of the expected performance. It is a sort of evaluation of the quality of the goods or services or the products themselves, which provides a certain level of comfort associated with meeting demands, such as addressing needs that fall short of or exceed consumer expectations.
(Ali et al., 2021)	"The customer's opinion of a brand or product after using any of the products or services offered by that company or brand is known as customer satisfaction."
(Giao et al., 2020)	"The degree to which goods and services can satisfy customers' expectations can also be used to characterize customer satisfaction."
(Choi et al., 2019)	How well a product or service meets a client's needs within the context of its use is referred to as customer satisfaction. Contentment is a socially constructed reaction to the relationship between a customer, the product, and the product manufacturer or supplier; it is not innate in either the person or the thing. To the extent that they have control over the different facets of the relationship, a provider or maker may have an impact on customer satisfaction.

Technology Readiness

According to Anh et al. (2024), "technology readiness" refers to people's willingness to embrace and use new technologies to complete activities at work and at home. One may argue that an individual's adoption of technology is directly proportional to their level of technological readiness. Receptivity to technology is associated with high levels of technological readiness, whereas resistance to technology is associated with low levels of technological readiness (Parasuraman & Colby, 2015). Technology readiness is multifaceted, varies by individual, and predicts or explains how people will react to new technology (Kulkarni, 2024).

People's attitudes toward technology might be vague, according to research on new technology adoption. People may hold both favorable and negative opinions toward new technology at the same time. Parasuraman developed the Technology Readiness Index (TRI)

in 2000, which was modified in 2014 as the TRI 2.0 (Kumi et al., 2024). The TRI also analyzes people's preparedness to absorb new technology into their daily lives and workplaces using the following psychological motivators and inhibitors: Optimism refers to being hopeful about the benefits that technology can give, innovation, taking the lead in technological use, discomfort, which is the feeling of being overwhelmed by technology, and insecurity, which is mistrust of technology and skepticism about its potential (Kumi et al., 2024).

Table 2

Technology Readiness Definition

Author	Definition
(Rahardja et al., 2024)	"Technology readiness is defined as the preparedness to accept and implement innovative and advanced technologies on a big scale. Technical maturity, market readiness, regulatory compliance, infrastructure compatibility, and social and cultural acceptance are among the issues considered.
(Rahman et al., 2023)	"Technology readiness is a personal characteristic." It affects how a person absorbs and accepts an innovation."
(Holmström, 2022)	"Technology readiness is the combination of technical skills and a self-assured mindset toward technology users."
(Martínez-Plumed et al., 2021)	"Technology readiness is the degree to which individuals are willing to accept and employ innovative technologies to help them accomplish various daily activities and goals. The Technology Readiness Index measures the amount of readiness for these breakthroughs.
(Blut & Wang, 2020)	Technology readiness is defined as a set of mental drivers and barriers that influence an individual's capacity to use new technology. Four dimensions make up the multifaceted build: insecurity, discomfort, inventiveness, and optimism.
(Kim & Chiu, 2019)	"Technology readiness is the feeling that users will adapt and use new technologies to attain personal and professional goals. It can be argued that technological belief influences an individual's level of technology readiness, because optimism conveys a favorable opinion that technology will boost potential users' control, flexibility, and efficiency."

According to Kim and Chiu (2019), 55% of Americans report feeling some form of technophobia, and other studies have revealed that computer-related anxiety affects millions of American workers (Kim & Chiu, 2019) and one-third of college students (Isikli et al., 2018). In other words, if a person is uncomfortable with technology or is unprepared to use it, they will avoid it. As new technologies are introduced, it is critical to assess how ready customers are to use them (Poushneh & Vasquez-Parraga, 2019).

Rahardja et al. (2023) refer to the inclination for individuals to adopt and apply new technologies to meet goals at work and at home as "technology readiness" (TR), a newly

established word. TR has been linked to TAM, technological paradoxes, computer anxiety, and technology anxiety. Greener (2022) developed a model of technology acceptance that captures the broad outlines of possible drivers and impediments to technology adoption. Based on a large qualitative study on people's attitudes toward technology, Yap et al. (2021) identified eight technological paradoxes that customers must deal with: mastery/disorder, liberty/slavery, novelty/old, effectiveness/ineffectiveness, proficiency/ineffectiveness, satisfaction/demand generation, absorption/isolation, and involvement/withdrawal.

According to these paradoxes, technology can provoke both pleasant and unpleasant feelings. A person's emotional struggle causes anxiety. This worry has been linked to technological anxiety, often known as computer anxiety. Individuals experience dread, uncertainty, and anticipation when considering or using computer technology (Alimamy, 2021). Some comparative studies have also identified specific consumer attitudes and motivations that may stimulate or hamper the adoption of new technologies (Antwi, 2020; Barbosa, 2021; Sarkam et al., 2022), depending on the consumer's perception of the technology's ease of use or enjoyment.

A person's readiness to use new technologies is determined by a combination of mental facilitators and inhibitors, which together form the construct of TR (Parasuraman & Colby, 2015). The development of a 36-item scale was based on four dimensions: insecurity (a lack of trust in technology and skepticism about its ability to function properly); unease (a perceived lack of control over technology and feeling overwhelmed by it); creativity (a propensity to be a technology pioneer and thought leader); and optimism (a positive view of technology and a belief that it gives people more control, flexibility, and efficiency in their lives).

Optimism and creativity are two of these traits that positively influence TR; they motivate consumers to utilize technology-related goods and services and to have a positive outlook on technology. Customers are reluctant to use technology because of negative, or inhibitory, sentiments like uneasiness and insecurity. Very little scholarly study has been done on how TR affects consumer behavior thus far (Parasuraman, 2000) also urges research to evaluate the TR scale's generalizability and potential uses.

Technology Readiness Dimensions

Innovativeness

Both innovativeness and uncreative people do not think that building trust in new technologies is very important. Despite the obstacles and hurdles involved in using these tools and systems, people find interactions with them to be engaging (Senali et al., 2023). This implies that worries about trust may be overshadowed by the allure of technology and the desire to participate in this dynamic society. In other words, the researcher's ability to embrace more disruptive and sophisticated technologies extends beyond the assumption of total trust in them, as it demonstrates the willingness and capacity to ask questions and take action. Most importantly, whether or not they initially intended to do so, people risk going beyond the bounds of acceptable innovation and utilizing the power of technology because of this yearning for new experiences and knowledge. According to Lee et al. (2024), those who are highly creative also tend to hold less sophisticated views regarding new technologies.

Optimism

Furthermore, optimism is linked to a favorable view of technology and the conviction that it increases people's productivity, adaptability, and sense of control over their lives. Since trust is the most commonly mentioned advantage of implementing new technology, control is essential for optimistic consumers (Facer & Selwyn, 2021). Optimists tend to have more active coping mechanisms since they are more inclined to accept their situation and less likely to worry about possible bad outcomes. Wu et al. 2024 claim that enthusiastic customers, who tend to have a more positive view, are more likely to see the positive aspects of things than those who are silent. They enjoy discussing new, innovative technology, particularly devices that show them to be tolerant and able to modernize civilizations in the future. This is a result of their mentality; they seek innovative solutions to problems and want to help those in need. Conversely, hopeful clients will often be more active in embracing and utilizing both simple and advanced features. They are adaptable to the present rate of technological change since they are enthusiastic about new advancements and proactively explore with various technologies (Pahlawansah et al., 2023).

Discomfort

According to Shin et al. (2021), discomfort as a sign of fear shows how much people fear technology-based goods and services by nature and think that using them will involve both a learning curve and a degree of comprehension difficulty. According to studies, customers who have trouble using new technologies are more likely to view them as a complicated system that can lead to a variety of negative outcomes, from minor irritation to mistrust and skepticism. They therefore choose to work on seamless user experience designs that are unsupported and unintended when confronted with this worry more clearly (Otsuka & Murayama, 2021).

It is important to keep in mind, nevertheless, that the fundamental features of these technological interfaces are so basic that they do not require users to be experts in the domains associated with more sophisticated versions of these technologies. Huang (2017). Because older technologies seem comfortable and don't strain their cognitive capacities, customers who are not tech-savvy and have high levels of discomfort are more likely to use them. Because of their innate dislike of complexity, people tend to select the easier option when given two choices and steer clear of anything that could impede their ability to learn and come up with innovative solutions. Because of this, people are reluctant to leave their comfort zones and continue to use what they know best rather than experimenting with new cutting-edge methods and procedures that could improve their efficacy and efficiency. Destructive conservatism among consumers can result from such inactive patterns, which can also hinder self-care and limit people's ability to fully benefit from the potential of long-term use of new technologies (Kocur & Jach, 2024; Huang, 2017).

Insecurity

According to Sagheer et al. 2022 individuals who experience high levels of insecurity seek reassurance regarding their safety because they lack confidence in the security measures of modern technology. These people will therefore only adopt a new, possibly dangerous technology if they believe the advantages outweigh any potential drawbacks. Consequently, it may be claimed that people who feel insecure will exhibit low levels of trust and utility when it comes to new technology (KIM & PARK, 2019). Furthermore, technological insecurity

can be seen as a lack of trust in the technology itself, in addition to being characterized by uncertainty about security and privacy concerns (Liu et al., 2023). The broad misunderstanding over the reliability of most websites poses a substantial hazard to clients. People's reluctance to embrace such technologies, for instance, is frequently caused by this ambiguity, since they believe that a novel and unexpected circumstance is likely to inspire mistrust and anxiety (Liu et al., 2023). The urge to stay away from new technologies speeds up their acceptance when they are still in their infancy. In essence, contemporary worries about technology security not only have an impact on individual users but also slow down the rate at which new technologies are adopted.

Therefore, it's critical to address these concerns as effectively as possible in order to foster confidence and enable people to use technology without any problems in their daily lives. Digital transformation requires bringing various stakeholders into a position where they can navigate a safe and trusted technological environment, which involves managing people's attitudes toward technology, including instilling a degree of fear (Pahlawansah et al., 2023).

Impact of Technology Readiness on Customer Satisfaction

Regarding technology-based services, customer satisfaction and behavioral intentions are significantly impacted by technology readiness (TR). The Technology Readiness Index (TRI) gauges people's readiness to embrace new technology. Shah (2024) asserts that, in the context of self-service technology, TR significantly affects customer satisfaction and behavioral intentions. To keep pace with the evolving technological landscape, TRI 2.0, an improved version, was subsequently developed (Parasuraman & Colby, 2015). TR has an impact on customer satisfaction in the travel industry, changing the relationships between future behavior, satisfaction, and the perceived quality of technology-enabled services. These effects vary by country, highlighting the need for culturally aware approaches to travel technology implementation (Ali et al., 2021; Giao, 2020; Kim & Chiu, 2019). In technology-driven marketplaces, knowing customers' TR can help businesses improve customer experiences, increase service quality, and create effective segmentation strategies (Qing et al., 2023).

Technology Readiness Index (TRI) in Emerging Economy Contexts

The Technology Readiness Index (TRI) model has been recognized as an effective tool in understanding individuals' readiness to adopt new technologies. The model was proposed by Parasuraman (2000). The strength of the model lies in its emphasis on users' mental rather than technological attributes, making it more appropriate in developing economies where technological disparities exist among users. In these economies, technology adoption is not only dependent on the quality of technology but also on individuals' mental and environment-related attributes.

TRI consists of four aspects: optimism, innovativeness, discomfort, and insecurity (Parasuraman & Colby, 2015). Optimism and innovativeness are enabling factors that create positive associations with technology services, while discomfort and insecurity are inhibiting factors that build resistance to technology use. In developing countries, these inhibiting factors play a greater role because there is no experience with hi-tech products, network connectivity can be inconsistent, and there may be security concerns about online fraud. Research conducted among emerging markets has shown that technology readiness is a

critical variable that influences customer perception of e-service quality, trust, and satisfaction. According to Blut & Wang (2020) and Rahi et al. (2019), customers who have high optimism and innovativeness have positive perceptions about e-commerce, as they find it useful and efficient. On the other hand, those who are insecure about e-commerce have high levels of concern about payment systems, security, and reliability, mostly because e-commerce laws have not yet emerged in those countries.

In the Algerian market, the role played by technology readiness cannot be underestimated in understanding the consumers' relationship with technology, as adopted in the case of e-commerce platforms. While there has been a tremendous increase in the environment for internet and smartphone access, the overall uptake of online shopping, compared to other developed markets, remains moderate. This has further intensified the role of discomfort and insecurity, and therefore, the role played by TRI is considered suitable in understanding the heterogeneous nature of the consumers in the Algerian market.

Expectation-confirmation Theory (ECT) in Emerging Digital Markets

Expectation Confirmation Theory (ECT), developed initially by Oliver (1980), describes satisfaction as a result of a comparison between pre-use expectations and post-use perceptions. In information system research, ECT was integrated into an explanation of continuance intention from a user perspective, focusing on the roles of satisfaction and usefulness derived from system use (Rahi & Abd. Ghani, 2019).

In an emerging economy, expectations regarding digital services are influenced by contextual limits, such as infrastructural limitations, service quality inconsistencies, and institutional uncertainty. Hence, confirmation of expectations is found to play a significant role in expectation satisfaction within these economies (Gupta et al., 2020). When digital services function properly and meet users' expectations, satisfaction levels increase manifold, even if expectations were minimal at the beginning. Similarly, service failure, such as delay in delivery or payment, or problems with website usability, may cause negative disconfirmation, resulting in users leaving digital services (Rahi & Abd. Ghani, 2019).

ECT can be seen as especially relevant in the context of the Algerian e-commerce environment because consumers have cautious expectations about online transactions. Customers often view e-commerce sites skeptically due to past negative experiences, a lack of consumer protection mechanisms, and concerns about delivery and after-sales service (Puspitasari et al., 2021). This paper, therefore, confirms that expectations associated with website usability, transaction security, and service reliability will have a decisive role in shaping customer satisfaction and loyalty. Indeed, recent studies in emerging markets confirm that confirmation significantly influences perceived usefulness and satisfaction, which in turn determine continuance intention and repeat purchase behavior (Puspitasari et al., 2021; Rahi & Abd. Ghani, 2019). Such findings bolster the applicability of the ECT to explain post-adoption behavior in developing digital ecosystems like Algeria's.

Integrating TRI and ECT in the Algerian E-commerce Context

“An integrated model of TRI and ECT can provide a holistic approach to understanding pre-adoption predispositions and post-adoption evaluations in the environment of emerging economies. TRI provides insight into how people’s intrinsic beliefs about technology shape

expectations, and ECT reveals processes by which these expectations are evaluated.”(Herzallah et al., 2025)

Similarly, for consumers in Algeria, having higher levels of technology readiness increases the chances for expectation confirmation after forming optimistic and innovativeness-related concepts about e-commerce websites. Optimism and innovativeness may encourage them to explore online shopping experiences, while discomfort and insecurity may cause them to be more tolerant of failure. These are psychological factors that cause them to relate differently to their post-purchase experiences (Puspitasari et al., 2021).

Furthermore, in the context of an emerging economy, the strength of the relationship between confirmation and satisfaction becomes even higher than that of a developed country (Gupta et al., 2020) . Algerian e-commerce websites, upon confirming their customers' expectations in terms of payment, delivery, etc., experience very high levels of satisfaction.

Research has begun to empirically support the integration of TRI and ECT in research on emerging markets, showing the mediating effects of technology readiness on satisfaction, as measured by expectation confirmation and usefulness. The integration of these two models appears to be particularly valuable in understanding customer behavior in developing digital markets (Herzallah et al., 2025).

Proposed Conceptual Framework

This framework will explore the relationship between technology readiness and customer satisfaction. Positive aspects, such as optimism and innovativeness, increase satisfaction, while negative aspects, such as discomfort and insecurity, decrease it. This highlights the need for e-commerce strategies to consider customers' attitudes toward technology. The study proposes hypotheses demonstrating that technology readiness directly impacts customer satisfaction and underscores the importance of enhancing innovativeness and optimism to improve the customer experience in the Algerian e-commerce sector.

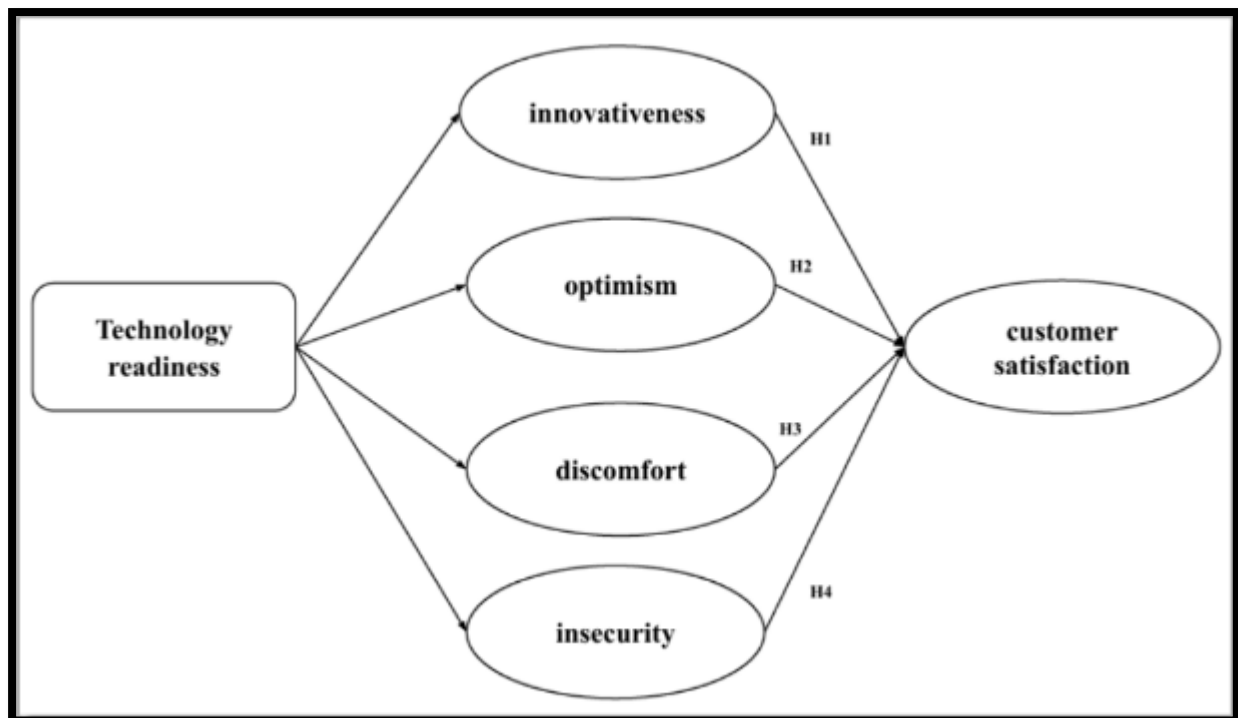


Figure 2: Proposed Conceptual Framework

Source: Made by researchers

Hypothesis Development

More specifically, in digital service contexts, technology readiness has emerged as a key determinant of customer satisfaction. It explains a user's readiness and optimistic outlook for utilizing novel and inventive technology (Arachi & Samarasinghe, 2024). Users will be more satisfied with the services if they feel more at ease and confident using them (Brill et al., 2022). Recent research, for instance, has demonstrated that a high level of technological preparedness leads to more favorable emotional and evaluative reactions to service encounters, particularly in environments where digital platforms are widely utilized (Adel & Sabah, 2025). This claim is much more pertinent to Algerian e-commerce, where companies work tirelessly to provide the greatest user experience and please customers (Kantar, 2024).

Innovativeness and Customer Satisfaction

Both organizational and individual skills are components of innovativeness. Competency in innovation and entrepreneurship go hand in hand. Compared to non-entrepreneurs, entrepreneurs tend to be more creative. According to Sayem et al. (2025), businesses must employ technology and innovation to differentiate themselves from the competition and prevent them from copying them. Thongkhum et al. (2023) defined perceived competency in service innovation as (1) strategic competence, (2) managerial competence, (3) operational capability, and (4) the ability to adapt with an emphasis on internal organization management to promote customer pleasure and trust. The study's objective was to find out how customers perceive the bank's innovative capabilities.

H1: Innovativeness impacts customer satisfaction positively

Optimism and Customer Satisfaction

The Technology Readiness Index (TRI) measures how people feel about and tolerate using technology. The four sub-dimensions of TRI are insecurity, discomfort, optimism, and innovativeness (Hassan et al., 2024). We believe that separating the two dimensions of optimism and innovation will facilitate further research on the effects of these elements on SST usability, even if Shin and Dai (2022) have already looked at the four features and their impact on technology acceptance.

Similar to Massey, Rachman, and Hendayani (2023) looked into the possible positive and negative feelings that SST users might have. To put it simply, customers who are enthusiastic about technology are more likely to use state-of-the-art solutions to enhance their lives and careers and, thus, feel more content. Wiese and Humbani separated their customers into "five distinct groups of technology users: explorers, pioneers, skeptics, paranoids, and laggards" (2020). Greater contributors or technology users in the "explorers" and "pioneers" groups tend to be more optimistic and creative. Thus, customers who are more optimistic about adopting new technology (optimism) and interested in cutting-edge technology (innovativeness) are regarded as explorers and pioneers. These groups think that putting technology like SSTs into practice is not at all difficult (Chen, 2024). Conversely, optimism shows that consumers think well of using or interacting with new technology and that self-service technology gives them more freedom, flexibility, and productivity at work (Hassan et al., 2024).

Consequently, it may be claimed that optimism is a concept that gives clients greater effectiveness, flexibility, and control over their lives. Examples of optimism include establishing efficient operations, having more influence over decisions, and favoring technology for business. When someone is creative, they can use new technology on their own and are frequently the first of their peers to accept it.

H2: Optimism impacts customer satisfaction positively

Discomfort and Customer Satisfaction

According to Suurna et al. (2021), discomfort in technology-related contexts can be more broadly described as a subjective experience that is marked by the sense of having no control over technological systems and devices. This lack of control frequently takes the form of overwhelming feelings of confusion or anxiety when using these tools. People with high levels of discomfort are typically those who perceive technology as a very complicated and challenging field. As a result, they typically experience significant levels of tension and irritation when utilizing the various technological platforms and devices (Pham et al., 2020). Therefore, the value that consumers place on the technology they are using is adversely affected by this nearly universal emotion of unease. The perceived usefulness and worth of technology instruments are diminished in the thoughts of people who are uncomfortable with or unable to use them. Moreover, a lack of trust in technology is likely to be fostered by this discomfort, and this lack of trust would serve as a breeding ground for discontent with commercialization (Li et al., 2021). This means that the feelings of unease and mistrust might now begin to spiral out of control, impacting not just user confidence but also the overall enjoyment of technological products and services (Eliza, 2023).

H3: Discomfort impacts customer satisfaction negatively

Insecurity and Customer Satisfaction

Ugwu (2023) asserts that a lack of trust in technology and a negative perception of its true capacity to function precisely and consistently are characteristics of insecurity. In other words, insecurity is the lack of faith or confidence in new technologies and the reluctance to employ them due to their unique characteristics (Lestari et al., 2023). People with insecurity are always scared when using new technology. This group regularly complains about how they are treated when using contemporary technologies. Insecurity may lead to a lack of trust in new technology and the perception that its functions are pointless. Doğançılı and Bozkurt (2021). The insecurity that arises from a hazardous environment may cause customers to become dissatisfied.

H4: Insecurity impacts customer satisfaction negatively

Methodology

The research paper follows the conceptual research design to develop a theoretical framework for understanding the impact of technology readiness on customer satisfaction in e-commerce contexts, using Algeria as the case study (Lindgreen et al., 2021). It avoids collecting primary data, instead reviewing and synthesizing prior literature on the subject. Through such a detailed review process, the paper tries to identify key concepts, relationships, and relevant contextual factors within the area of study (Kivunja, 2018). By identifying these key elements from the perspective of existing scholarship, this study hopes to explain how technology readiness influences customer satisfaction levels and how such factors are related within the context of the Algerian digital market.

This research paper employs a deductive conceptual research design to develop a theoretical framework explaining how technology readiness impacts customer satisfaction in the context of Algerian e-commerce (Dennis, 2018; Kivunja, 2018). The study relies on a comprehensive review and synthesis of available literature to identify key concepts, relationships, and contextual factors relevant to the research problem, rather than collecting primary data (Kivunja, 2018).

Expected Findings

Several probable findings about the effect of technology readiness on customer satisfaction in the Algerian e-commerce setting can be expected by using the Technology Readiness framework and previous studies in digital commerce environments.

Among the first things expected is that the aggregate technology readiness would greatly positively influence customer satisfaction (Hariguna et al., 2025). Those consumers who exhibit high degrees of technological optimism and innovativeness would probably find it easier to access e-commerce platforms, view online transactions more favorably, and indicate higher levels of satisfaction with their shopping experiences. In the case of Algeria, which is still undergoing digital transformation, technologically ready consumers are expected to be able to adjust more quickly to online systems and get more benefits from them (Kadri et al., 2021).

Secondly, of the positive dimensions of technology readiness, optimism is predicted to have the most significant positive effect on customer satisfaction. Optimistic consumers are those who think that technology facilitates convenience, efficiency, and control, which are essential factors in determining satisfaction in online shopping environments (Alalwan et al., 2018). On

the other hand, innovativeness is predicted to have a positive effect on satisfaction, but not as much as with optimism, because innovative consumers are more willing to try digital platforms and are more tolerant of minor system defects (Hassan et al., 2024).

Thirdly, the negative dimensions of technology readiness, which disallow discomfort and insecurity, are expected to have a detrimental effect on customer satisfaction (Hariguna et al., 2025). Consumers who get overly obsessed with technology or perceive online transactions as risky are anxiously likely to be faced with purchasing process anxiety, which in turn diminishes satisfaction. In Algeria, where worries still exist regarding online payment security, delivery reliability, and data privacy, insecurity is expected to have a particularly significant negative impact (Davoodi et al., 2025).

Fourthly, it is presumed that the nature of these relationships might be dependent on situational variables such as prior online shopping experience, trust in e-commerce platforms, and perceived website usability. For example, relative to experienced online shoppers, the effects of discomfort and insecurity might be weaker. Meanwhile, trust might enhance the relationship between optimism and satisfaction (Akil & Ungan, 2022; Antioco & Coussement, 2018).

Fifth, technology readiness is expected to explain a significant share of the variance in customer satisfaction, besides the already known factors of service quality, according to the study. This will be proof that psychological tendencies toward technology have a basic influence on the way customer post-purchase evaluations are formed in the new digital markets (Juwaini et al., 2022).

Lastly, the results are likely to reveal that if customers' technology readiness is raised through measures such as customer education, user-friendly design, and the establishment of trust, then customer satisfaction in the Algerian e-commerce market could be significantly improved (Juwaini et al., 2022). The outcomes would, thus, serve as a factual basis for the inclusion of individual technological traits as a component of the overall customer experience and satisfaction models.

Theoretical Implications

This study has important implications for theory in terms of its contribution to the fields of technology readiness, customer satisfaction, and e-commerce, especially in the Algerian context. This research validated the theory of the Technology Readiness Index, proving that the theory is applicable in the developing e-commerce environment. It also studied the implications of optimism and discomfort as factors of customer satisfaction in the Algerian context. This study has also redefined the theory of customer satisfaction by showing that technology readiness in the pre-consumption phase is an essential factor influencing customer expectations. It validated the theory by showing the connection between the concept of technology readiness and the satisfaction of customers in relation to electronic transactions. It also connected the concept of technology readiness to the satisfaction of customers by showing its role in the trust concept. In addition, the theory needs to be adapted to the context in Algeria to deal with the structural problems in the country's e-commerce environment.

Managerial Implications

The study therefore reveals some key managerial implications for e-commerce companies in Algeria: designing platform features in an easy-to-use manner to accommodate technology-ready and inexperienced users by making site layouts simple, intuitive, and easy to navigate; technology discomfort and insecurity need to be lessened, which includes investment in usability, reliability, and perceived security in combination with clear visible security signals that reduce perceived risk. Enhancing trust through customer reviews, seller ratings, and efficient complaint handling bolsters credibility and may be further improved by offering a wide range of payment options to improve customer satisfaction. Therefore, the companies will have to improve the level of technology readiness by investing in customer education through tutorials and other forms of assistance in local languages, especially targeting first-time and less digitally literate customers. Consequently, companies that base their segmentation and personalization strategies on technology readiness may be able to deepen their customers' relationships for sustainable growth in the sector.

Conclusion

This research underlines the fact that in the digital age, the success of technology depends on human adoption, not just availability (Ashari Nasution et al., 2021). This study will show that technological readiness in Algeria is a significant determinant of customer satisfaction in the services sector, with a very complex relationship that has serious implications for the future of the country. Younger and more urban Algerians readily adopt technology as a source of convenience and choice, whereas older and less tech-savvy individuals often experience frustration and distrust due to concerns about data privacy and digital complexity. This threatens to widen the digital divide (Alit & Mazouzi, 2023).

It proposes tailored strategies for these different levels: innovation in those who are best prepared, educating and supporting the least prepared. In this regard, the concept of "digital humanism" is emphasized, which, according to the research, should characterize the actions of policymakers, along with the promotion of digital literacy and consumer protection policies. The findings urge businesses and the government to give priority to customer satisfaction through a positive consumer mindset, inclusion, and fulfilling digital transformation that leads to a "digital Algeria" based on human readiness (Tadjine & Mebarki, 2024).

Limitations and Future Directions

Although this conceptual study outlines the foundation for studying the intersections of e-technology and customer satisfaction within Algeria's e-commerce ecosystem, there are some limitations that narrow this study that can be addressed by future research.

Also, the lack of empirical verification of this conceptual study should be noted. Any proposed framework and assumed relationships are theoretical and have yet to be tested, quantitatively or qualitatively. Future research could incorporate other forms of empirical verification of such relationships by using a survey or experimental design to determine the relationships' constituents and their respective value (Uren & Edwards, 2023).

Considering the unique aspects of the Algerian e-commerce context, it is likely that the proposed model might be less generalizable when compared to other markets. Algeria's

cultural, economic, and contextual technology environments are different from those of other developing or developed economies, and this, likely, will provide a distinct customer behavior. Future studies might be comparative research within North or South Africa and, broadly, the MENA region to see how culture and technology infrastructure differentially influence technology readiness and customer satisfaction (MOHAMMED EL HADJ et al., 2024).

The factors determining technology readiness and customer satisfaction are manifold, and they are not just one of those simple things; for instance, they often stem from trust, the perceived risk, and service quality, or even the user's comfort level with digital tools. It would have to be very comprehensive and exploratory, though; future research would also have to look at other factors like perceived ease of use of the platform, trust in it, and even demographic variables like age and background to understand the link between technology readiness and customer satisfaction more clearly (Pramudito et al., 2023).

This paper mainly focuses on the big picture and, therefore, does not provide any specific research methodology. Future research can be very flexible and imaginative in its choice of instance methods, coalescing surveys, interviews, and even investigating website traffic or reviews (Yang et al., 2022). The combination of approaches might open up new avenues of inquiry. And at the same time, it would be more interesting to monitor such changes over time, especially during the period of rapid growth in Algeria's digital economy, which would then result in a clearer picture.

Currently, the research mainly brings up implications for e-commerce managers and policymakers, but has not been applied in practice yet. The next stage would be to find out what works in practice, e.g., support measures to improve digital literacy or developing user-friendly platforms to increase tech readiness and customer satisfaction in the Algerian e-commerce sector (Vasić et al., 2021).

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