

# The Effectiveness of Digitalisation Usage on Customer Satisfaction Amidst the Covid-19 Outbreak and Recovery Phase

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## ABSTRACT

The utilisation of digital technologies to modify business models and generate fresh avenues for revenue and value creation has been acknowledged as a prominent factor. Consequently, it becomes evident that substantial transformation is imperative to effectively realise the ultimate objective of establishing digital enterprises. The issue of digitalization is predominantly an administrative concern rather than a technical one. This article focuses on the aspects that contribute to the enhancement of customer satisfaction in online shopping within China, during the Covid-19 pandemic and the subsequent recovery phase. Online buying has become a prevalent trend among consumers in recent times due to its inherent convenience. The researcher developed a conceptual framework in this study and intends to examine the correlation between seven variables: security, information availability, shipping, quality, pricing, time, and consumer satisfaction in the context of online purchasing. The framework has the potential to be utilized for future research and to make a valuable contribution to the existing body of information on emerging digital business models.

**Keywords:** Customer Satisfaction, Online Shopping, Technological Acceptance Model, Expectancy Disconfirmation Theory, China.

## I. INTRODUCTION

The utilisation of digital technologies to modify business models and generate fresh avenues for revenue and value creation has been acknowledged as a prominent factor (Gartner, 2019). Consequently, it becomes evident that substantial transformation is imperative to effectively realise the ultimate objective of establishing digital enterprises (Lichtenthaler, 2021). According to Bai et al. (2021), the issue of digitalization is predominantly an administrative concern rather than a technical one. The examination of businesses' perspectives on digitalization is approached from multiple perspectives. The examination of the company's capacity to adopt new and developing technologies is investigated within the framework of organisational readiness, together with other

relevant factors (Denicolai et al., 2021). The global proliferation of digitization is experiencing growth throughout the ongoing Covid-19 pandemic. The process of digitization has expedited the pace of economic expansion in several affluent nations. The integration of digitization and sustainability within the corporate sector has the potential to accelerate its process of digital transformation (Sa, Santos, Serpa, & Ferreira, 2021). The internet has become a valuable marketing tool since its transformation into a global interconnected network for the exchange and dissemination of information. It serves as a platform for both domestic and international transactions. Vasic et al. (2019) assert that the phenomenon of online purchasing has experienced significant expansion due to its perceived advantages in terms of affordability and convenience when compared to traditional brick-and-mortar retail. In contemporary times, there exists a wide array of choices available to electronic sellers, which has significantly grown in order to establish and maintain consumer relationships (Pappas, Pateli, Giannakos & Chrissikopoulos, 2014). Online shopping provides consumers with a wealth of information and possibilities to compare products and prices, a wider range of product options, as well as convenience and ease in locating desired items on the internet. In their study, Kibler et al. (2015) highlights the significance of the online buying experience and suggest that it would be worthwhile to examine how different degrees of experience impact the important components that determine online shopping behaviour.

In response to the Covid-19 pandemic, the government has implemented a mobility restriction order, mandating individuals to remain in their residences. Individuals are compelled to restrict their physical mobility in order to mitigate the rapid transmission of the Covid-19 virus. Numerous individuals are affected as they contemplate strategies for fulfilling their family requirements (Saragih et al., 2018). Despite the significance of grocery shopping as a fundamental activity, there exists less understanding regarding the intricate correlation between the COVID-19 epidemic and the behaviours exhibited by those engaged in food shopping. Bhatti et al. (2020) assert that the global impact of the Coronavirus has significantly transformed the landscape of e-commerce, resulting in a fundamental shift in the nature of the market. Based on the findings of the study, it has been observed that a significant proportion of customers, specifically 52%, tend to refrain from engaging in shopping activities in physical retail establishments and busy locations. Furthermore, a notable proportion of individuals, specifically 36%, refrained from engaging in brick and mortar purchasing activities until they had gotten the coronavirus vaccine. In the other hand, the primary factor driving individuals' inclination towards online shopping is the advent of technology. According to Sarika et al. (2016), the increasing prevalence of e-commerce has resulted in a heightened inclination towards online purchasing, prompting individuals to increasingly rely on various online retailers to fulfil their requirements. An increasing number of individuals are inclined towards engaging in online shopping due to its expeditious and convenient nature, which ultimately results in time-saving benefits (Vasic, Kilibarda, & Kaurin, 2019).

The phenomenon of internet shopping is experiencing fast growth, mostly driven by the expansion of the Internet. There has been a notable rise in the variety of methods available to electronic merchants for establishing and maintaining ties with their clients. While acknowledging the inherent diversity among customers, it is crucial to note that individuals who exhibit higher spending habits and engage in frequent purchasing activities hold greater

significance for a company (Lichtenthaler & Ernst, 2009). Customer retention is a matter of great importance for organisations seeking to attain a competitive edge (Pappas et al., 2014). Moreover, the COVID-19 pandemic is anticipated to exert a significant impact on key stakeholders within the publishing industry. Nguyen et al. (2020) posit that the temporary closure of physical bookshops and the reluctance of customers to visit such establishments due to health concerns are anticipated to result in a significant surge in the demand for online book shopping in the near future. Sharin and Sentosa (2023) assert that individuals have the ability to use the internet continuously, 24 hours a day and 365 days a year, enabling them to engage in online shopping conveniently at their fingertips. The importance of customer satisfaction in fostering consumer engagement and loyalty has been recognised. Achieving customer satisfaction poses challenges, especially within the context of an online setting characterised by minimal interaction between corporate personnel and customers. The importance of customer satisfaction in establishing enduring customer connections and sustaining revenue necessitates a comprehensive understanding of the aspects that lead to consumer happiness. Therefore, the present study aims to investigate consumer satisfaction pertaining to various characteristics of service quality (security, information availability, shipping, quality, pricing, time) in the context of online buying.

## II. LITERATURE REVIEW

### A. Defining Variable

#### 1) *Customer Satisfaction*

Customer satisfaction is believed to be influenced by two main factors: problem-based experiences and consumer expectations. In other words, customer satisfaction is considered to be the result of the interplay between the problems encountered by customers and their expectations. When the outcome meets the consumer's requirements, satisfaction will be achieved. According to Alam and Yasin (2010), the primary factors to consider when evaluating trust and satisfaction are the measurement of the efficacy of implementing the business premise. In the study conducted by Grinstein (2008), it was identified that there exist eight distinct aspects that are seen to be significant. These factors encompass the website quality, security measures, product correctness, online transaction processes, goods performance, product selection, and service provision. Moreover, it is asserted that the aforementioned characteristics contribute to consumer pleasure, including the consistency of the customer relationship, accuracy of information, total value, and secrecy. Customer happiness can potentially be influenced by the level of service efficiency and the presence of unorganised retail inside a commercial organisation (Pirnar, 2015). Fulfilment can be understood as a response to a disparity between prior performance and the actual outcomes achieved. The level of client satisfaction can be determined by the extent to which they express contentment with the provided goods or services. The satisfaction of customers is of utmost importance to product and service promoters, since it directly impacts the satisfaction of their clients. Various factors contribute to consumers' purchase incentives, including rebuying behaviour, word-of-mouth recommendations, and commitment (Byambaa & Chang, 2012).

## **2) Security**

According to Vasic, Kilibarda, and Kurin (2017), security refers to the capacity of a website to safeguard users' sensitive data from unauthorised information disclosure during electronic transactions. Additionally, Ali et al. (2018) define security as the website's ability to protect customer personal information acquired through electronic transactions from improper use or disclosure. Concerns regarding the dependability, accountability, and confidentiality of the online platform have been expressed by consumers. System protection emerges as the primary concern among online buyers. Consumers frequently express apprehension regarding potentially fraudulent activities perpetrated by malevolent third parties. Furthermore, financial stability emerges as the primary determinant of consumer loyalty in the context of online buying. The relationship between financial security and confidence is significant, as research suggests that security tends to have a beneficial influence on one's level of confidence. Consumers may have apprehension regarding the potential unauthorised access and manipulation of their financial information by external entities when engaging in online shopping transactions using debit or credit cards. In the study conducted by Tang and Nguyen (2013), significant attention is given to the issues surrounding confidentiality and security. A majority of the poll participants, specifically 61%, expressed their intention to engage in online transactions, provided that the security and protection of their personal and private information is ensured. Therefore, all of the aforementioned factors collectively signify the significance of security measures in the context of online buying, which serves as a crucial determinant for consumers when making purchasing decisions on the internet. Hence, websites that offer security measures ensure reliable and contented users. The following study hypothesis has been formulated, positing that security has a beneficial impact on consumer satisfaction as follows:

**H1: The security factor for online shopping significantly influences customer satisfaction.**

## **3) Information Availability**

According to Eze et al. (2013), the limited opportunity for online buyers to physically examine and interact with products necessitates the provision of comprehensive information by online retailers. In the other hand, Vasic, Kilibarda, and Kurin (2017), it is essential for online retailers to provide shoppers with accurate and comprehensive product information. This includes all relevant details that are appropriate and correct (Smith et al, 2022). Consumers place significance on the information they get and assess its relevance based on their own preferences and needs. The inclusion of pertinent information enables digital marketers to alleviate consumer uncertainties and reservations pertaining to a certain product or the act of online shopping. Online interactive tools that facilitate the comparison of goods and services are considered to be a significant means of obtaining information that can assist the decision-making process for online purchases, ultimately leading to improved consumer satisfaction. Subsequently, the concept of product knowledge is explicated in relation to its availability and consistency, which are regarded as key dimensions of electronic happiness (Sharin, Sentosa & Perumal, 2022). As a result, the researcher developed an initial hypothesis based on the current literature, which is outlined as follows:

**H2: The information availability for online shopping significantly influences customer satisfaction.**

#### **4) Shipping**

Shipping plays a crucial role in the supply chain, exerting a direct influence on consumer satisfaction. The aforementioned study by Sentosa and Nik Mat (2012) highlights the significance of a particular activity in various stages, with a specific emphasis on its relevance at the context of online purchasing. According to Vasic, Kilibarda, and Kurin (2017), it is imperative to guarantee that the consumer receives the product they have ordered. This includes ensuring that the product is appropriately packaged and that its quantity, nature, and specifications align with the original order. Additionally, it is essential to adhere to the predetermined time and location for distribution. Consumers have an expectation that manufacturers will provide the promised goods in a manner that is both secure and reasonable. According to Nguyen et al. (2020), consumers assert their entitlement to receive a specific product within the timeframe specified in the promised terms. Efficient and expeditious distribution plays a crucial part in meeting client demand and enhancing their satisfaction inside the digital realm (Sharin, Shamsudin & Sentosa, 2023). The slow delivery of products has the potential to elicit dissatisfaction among purchasers (Lin, Wu, & Chang, 2011). According to Gartner (2019), contemporary consumers are empowered by efficient and satisfactory order placement processes. The contemporary impact of courier service efficiency on faith in distribution is a subject of academic interest. Buyers may want to switch between different platforms due to their dissatisfaction with delayed and inadequately safeguarded shipments, triggered by a single click. Therefore, it is imperative that the distribution process adheres to the customer's criteria. Consequently, the researcher formulated an initial hypothesis by drawing upon the existing literature, which is delineated as follows:

**H3: The shipping factor for online shopping significantly influences customer satisfaction.**

#### **5) Quality**

The concept of perceived product quality can be described as the consumer's assessment of a product's overall excellence or superiority. According to a study conducted by Lin, Wu, and Chang in 2011, the quality of web-based products and services has a beneficial impact on consumer loyalty. The establishment of profound and dedicated relationships between consumers and online retailers is contingent upon the quality of service provided by the latter. Online retailers who provide exceptional service quality are able to effectively cater to the demands of their customers, resulting in an enhanced level of customer loyalty. The impact of enhanced website consistency on consumers' online purchasing decisions has been extensively studied. According to Khan, Liang, & Shahzad (2015), service quality is defined as the provision of support by online retailers to facilitate efficient and effective purchasing, shipping, and distribution of goods and services. Online retailers enhance consumers' perceptions and add value to their shopping experience by effectively disseminating information through various platforms, both directly and indirectly. Hence, effective quality management is vital in order to uphold the utmost level of service quality for clients inside the sector. The study conducted by Hilaluddin and Cheng (2014) aimed to assess service quality as a means of predicting customer satisfaction and loyalty. The impact of service consistency in enhancing consumer happiness is significant. The enhancement of website efficiency has a substantial impact on consumers' inclination to make online purchases. Based on the aforementioned information, a hypothesis has been formulated that posits a positive relationship between quality and customer satisfaction.

**H4: The quality factor for online shopping significantly influences customer satisfaction.****6) Pricing**

According to Todericiu and Stăniț (2015), the professional literature emphasises the significance of pricing in customer satisfaction. This is attributed to the tendency of consumers to prioritise pricing when evaluating the value of a product or service. Consumers leverage the Internet to make purchases at a reduced cost compared to in-store prices, owing to more favourable purchasing conditions. This remark demonstrates that a majority of individuals exhibit a preference for internet shopping due to their desire to obtain products at reduced prices. According to a study conducted by Valdez-Juarez and Castillo-Vergara (2021) stated that the concept of pricing refers to a monetary unit or metric that is utilised as a means of exchange for acquiring ownership or usage rights of goods and services. This exchange of price has a direct impact on the income of a firm. Given the diverse range of goods and services offered by online merchants, users have the opportunity to compare prices across several platforms and potentially find items at lower costs than those available through traditional retail channels. Certain sites such as EBay provide clients with the opportunity to purchase items at discounted costs, thereby offering them a favourable deal. According to Rudansky-Kloppers (2014), this approach involves transforming online shopping into a game-like experience, hence enhancing its entertainment value. According to Zeithaml (1988), pricing can serve as a determining factor in the decision to either discontinue the acquisition of products or services or negotiate a compromise in order to obtain them. Based on the aforementioned perspective, it may be inferred that the implementation of established price exerts a favourable influence on consumer satisfaction.

**H5: The pricing factor for online shopping significantly influences customer satisfaction.****7) Time**

Kennedy and Kundu (2018) provide a definition of time as the duration between the customer's order placement and the seller's delivery of the ordered item to the consumer. According to Issalillah et al. (2021), there is a persistent consumer expectation for expedited shipment, as it has been found to stimulate interest in making a purchase. In addition, the aspect of time efficiency holds great importance when it comes to online buying. Time, being a fundamental resource, is often squandered by customers during the process of shopping, whether it be online or in brick-and-mortar stores (Hariani, 2022). E-commerce retailers aim to efficiently manage the flow of goods through the supply chain, with the objective of promptly delivering products to customers within the estimated time of arrival (ETD). This aspect plays a significant role in the increasing appeal of online sales (Kennedy & Kundu, 2018). One of the most significant challenges faced by individuals is the assumed limitations imposed by time. The concept of time limitations refers to the extent to which individuals are aware of the limited amount of time available for fulfilling their daily obligations and completing tasks. The convenience of online trading allows consumers to engage in shopping activities at any time and from any location, thereby streamlining their lifestyle. This eliminates the need to search for parking spaces and avoids the inconvenience of waiting in lines or being part of a crowd within physical stores (Mardikaningsih, Sinambela, Darmawan & Nurmalasari, 2020). The passage of time has been found to have a favourable influence on the level of customer satisfaction.

**H6: The time factor for online shopping significantly influences customer satisfaction.**

**B. Variable and Measurement**

VARIABLES	ITEM
SECURITY	Hesitation about providing information
	Risk of the loss privacy
	Risk of identity theft
	Protect privacy information
	Secure site for transaction process
INFORMATION AVAILABILITY	Identical information
	Accurate information
	Timely information
	Latest information
	Seller responses information
SHIPPING	Free shipping
	Product delivery
	Delivery of the mistaken product
	Delivery of appropriate size of the product (clothing)
	Quality and freshness of the delivered product
QUALITY	Same quality product
	Same purchase conditions
	Rare product inconsistency
	Authenticate product
	Feedback
PRICING	Money saving
	Cheaper purchase
	Lower expense per transaction
	Lowest price product
	Spend less on online shopping
TIME	Time saving
	24/7 purchase
	Smart time spending



	Most spending website
	Employed person preference to save time
CUSTOMER SATISFACTION	Make Purchasing much interesting
	Repeat purchase
	Recommendation to others
	Easy to deal with online seller
	Easy to navigate

### III. CONCEPTUAL DEVELOPMENT

#### A. Underpinning Theory

This research supported by two underpinning theory which are Technological Acceptance Model (TAM) and Expectancy Disconfirmation Theory (EDT):

##### 1) *Technological Acceptance Model (TAM)*

The Technological Acceptance Model (TAM) is employed as a means to comprehend the behavioural patterns of customers who engage in mobile commerce. In addition to its application in examining the adoption of new technologies, such as mobile commerce, the Technology Acceptance Model (TAM) is employed to assess consumer behavioural intention and acceptance of these technologies. Specifically, the perceived ease of use and perceived usefulness constructs within TAM are utilised to evaluate customer satisfaction and their willingness to adopt new technologies. In a study conducted by Amin, Rezaei and Abolghasemi (2014), the researchers examined a particular topic. This framework employs items that are appropriate for assessing the constructs of perceived ease of use and perceived usefulness. The Technology Acceptance Model (TAM) places a primary emphasis on technology and includes variables inside its framework that serve as pathways to demonstrate how technology might influence consumer satisfaction. The availability of information on online shopping websites is anticipated to be a characteristic that contributes to the perceived usefulness for customers, perhaps resulting in increased consumer satisfaction and enhanced online buying experiences.

Furthermore, Sarika, Preeti, Shilpy, and Sukanya (2014) argue that the Technology Acceptance Model (TAM) is a significant theoretical framework for understanding customer satisfaction in the context of e-commerce. In this study, the researcher employed the Technology Acceptance Model (TAM), which incorporates two key beliefs: perceived usefulness and perceived ease of use. This research examines the impact of independent variables, namely attitude towards using, behavioural intention to use, and actual system use, on customer satisfaction with regards to the perceived ease of use. The relationship between dependent and independent variables establishes a connection with our group framework. The significant influence of perceived ease of use can result in increased consumer satisfaction. In addition, the behaviour of the client can influence the level of satisfaction experienced. The user's text is too short to be rewritten academically.



Moreover, the Technology Acceptance Theory (TAM) places emphasis on the ease-of-use aspect of technology in relation to shopping behaviour. It may also be described as the utilisation of new media within the process of engaging in shopping behaviour. This idea facilitates the understanding of customers' intentions to utilise and incorporate the system into their shopping behaviour. According to Khan, Liang, and Shahzad (2015), the acceptance of technology's ease-of-use in buying behaviour can result in increased customer satisfaction and a higher likelihood of repeat purchases on the same online shopping platform. This study used the Technology Acceptance Model (TAM) to establish the association between the independent variable and the dependent variable. The primary reason for this study's focus on online purchasing is the critical requirement for customers to embrace and adapt to the usage of technology. The level of user-friendliness will significantly affect customer satisfaction when they are able to effectively utilise the technology, hence potentially influencing their purchasing habit in the context of online shopping (George & Kumar, 2013).

## **2) *Expectancy Disconfirmation Theory (EDT)***

The researcher intends to employ Expectancy Theory (EDT) as the theoretical framework for their study. This theory aligns well with the focus of this journal as it offers a means to assess consumer happiness. This theoretical framework comprises four key components, namely Expectations, Perceived Performance, Disconfirmation, and ultimately contentment. This journal study centres on doing a comprehensive assessment of the use of EDT in order to achieve the stated research aims. The measurement of customer satisfaction across various dimensions within the EDT framework is employed. The authors of this work (Elkhani & Bakri, 2012) developed an appropriate measuring model based on the aforementioned idea. This study focuses on a specific theory pertaining to the dependent variable of customer satisfaction. The primary objective of this research is to gain a comprehensive understanding and conduct an analysis of customer happiness in the context of online shopping. To do this, the use of the EDT (Electronic Data Transfer) method will be employed to measure consumer satisfaction levels. It may be asserted that our group framework encompasses all the elements under the EDT paradigm. As an illustration, the independent variable in our study is information availability (Yousefi, Yasmin, Paim, & Nikhashemi, 2013). This particular independent variable falls within the category of expectations, as the information pertaining to a product might influence customers' expectations regarding the product, among other factors.

## **B. Conceptual Framework**

The researcher suggests employing the aforementioned conceptual framework to quantitatively assess key factors influencing the long-term success of Chinese companies in the context of digitalization. Specifically, the framework in Figure 1 aims to measure the impact of these factors on customer satisfaction with online shopping. The confirmation of the observable relationship between an external component (such as security, information availability, shipping, quality, pricing, and time) and an internal factor (consumer happiness) can be achieved by employing additional survey instruments, as conducted by researchers. This study offers a comprehensive examination of the foundational aspects that pave the way for future investigations into the phenomenon of

digitalization and its ramifications on emerging business models. Furthermore, the methodology considers the possible contributions that business organisations, namely those operating in China, could make towards boosting the efficacy of the firms under investigation. The adoption of a holistic perspective allows individuals to understand and provide explanations for intricate and well-coordinated phenomena, where all components are interconnected and make significant contributions to the entirety. Entrepreneurs in China firms will be included as participants in this study's sample due to their representation of the population of interest, as noted by (Ruta & Macchitella, 2008). The ability to manage digital resources and achieve organisational goals exhibits a discernible differentiation among the main components (Klofsten, Urbano & Heaton, 2020). Furthermore, the framework demonstrates a high level of efficacy when utilised in conjunction with other management systems, and its adaptability allows for seamless integration into novel management structures.

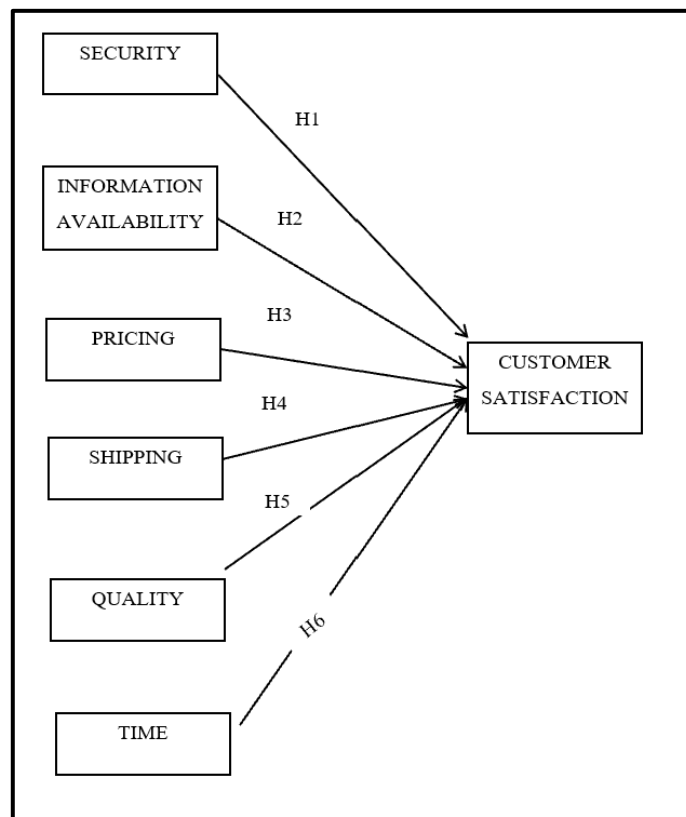


Figure 1: Conceptual Framework

#### IV. CONCLUSION AND RECOMMENDATION

In conclusion, the customary manner of purchasing has proven inadequate for many persons as a result of technology and digital advancements. The contemporary preference for more convenient methods of brand acquisition and store accessibility can be attributed to the transformative impact of the Internet on customer perceptions of convenience, speed, pricing, and product and service information. Consequently, merchants have recognised a novel strategy for creating value and cultivating consumer relationships. This study also helped to the understanding that despite the occurrence of the Covid-19 pandemic, individuals continue to engage in online

buying activities (Sancho-Zamora et al., 2022). Future research aims to investigate the correlation between security, information availability, delivery, quality, cost, and time with regard to customer happiness in the context of online purchasing. The framework has been substantiated through the utilisation of the Technological Acceptance Model (TAM) and the Expectancy Disconfirmation Theory. The framework devised by the researcher can be adapted to incorporate various scenario elements and prospective avenues for further research. The integration of this technology will significantly influence the progress of the digitalization system. An important societal contribution is the heightened usage of internet platforms for purchasing goods during periods of global health crises, such as pandemics. This phenomenon can be explained by the effect of the independent variable, which has the power to greatly influence consumers' preference for online shopping and thus increase their satisfaction levels when they make a purchase. Moreover, the ongoing pandemic's effect on businesses is reduced when consumers choose to make online purchases. Regardless of the epidemic, the economy will definitely continue, and customers can also benefit when participating in online shopping.

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