

Millennials' Online Purchase Intention Towards Consumer Electronics : Empirical Evidence from India

*Hemantkumar P. Bulsara*¹

*Pratiksinh S. Vaghela*²

Abstract

Millennials are those born between 1980 and 2000. They are the first digital generation of the 21st century. Millennials' ability to see the world through the eyes of the digital lens makes them a unique customer segment. Millennials have a higher purchase capacity compared to their older cohorts. Millennials have become an essential category of customers for marketers compared to other cohorts. The article examined the influence of perceived risk, e-service quality, subjective norms, and trust in the context of online shopping for consumer electronics products by millennials. The conceptual model was developed based on the previous studies to achieve these objectives. Data were collected from 474 digital shoppers from Surat, Ahmedabad, and Vadodara cities of Gujarat. The relationships among the constructs were analyzed by using structural equation modeling. The study results indicated that trust, e-service quality, and subjective norms influenced millennials' online shopping intention for consumer electronics products. The findings provide significant implications for online retailers to develop millennials' customer acquisition and retention strategies.

Keywords : trust, e-service quality, perceived risk, subjective norms, online shopping, purchase intention, millennials, consumer electronics

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The growth of e-commerce in India is supported by the relatively better economic conditions, young demographic profile, internet penetration, and smartphones. Government initiatives like Digital India, Digital Payment, Skill India, Start-up India, and Make in India act as fuel in the growth of the e-commerce industry in India. The number of digital users is projected to reach 829 million by 2021. The Indian e-commerce industry, as the world's fastest-growing e-commerce industry, is projected to be US\$ 200 billion by the year 2026. In India, consumer electronics is currently the most purchased product category that accounts for a 48% share of total online retail after the apparel product category and accounts for around 29% of online retail (India Brand Equity Foundation, 2021).

Millennials (Generation Y) have experienced the distinguishing factor of the rapid development of technology. The internet has become the most integral part of their daily lives. Millennials have grown up in the age of rapid technology change. They have different priorities and expectations from other cohorts. With an average age of 29, India is projected to be the most prominent young country by 2022 globally (Singh et al., 2021). As the largest generation, millennials have the potential to influence businesses around the world. According to a Morgan

¹ *Associate Professor of Management, Applied Mathematics & Humanities Department, Sardar Vallabhbhai National Institute of Technology, Ichchhanath Surat - Dumas Road, Keval Chowk, Surat - 395 007, Gujarat.*
(Email : hemantbulsara@gmail.com) ; ORCID iD : <https://orcid.org/0000-0003-2891-2776>

² *Assistant Professor, S. R. Luthra Institute of Management, Sarvajani University, Athwalines, Surat - 395 001, Gujarat.*
(Email : pratiksindh.vaghela20@gmail.com) ; ORCID iD : <https://orcid.org/0000-0003-2395-4571>

Stanley report, it is estimated that smartphone ownership in India will reach 100% of millennials. They will largely depend on mobile apps to shop, eat, book tickets, and perform banking transactions (Sayeda, 2020). Thus, it is extremely likely that marketers need to develop effective marketing strategies to capture the maximum share of millennials' spending (Drenik, 2019; Smith, 2012).

Globally, millennials possess USD 200 billion annual purchasing power (Narula, 2021). Considering the size and purchase capacity of the millennials, they have become an essential group to be researched by researchers and marketers. In the online shopping context, many previous studies have tried to study the behavior of millennials in general. Most of these studies were done outside India. Thus, millennials' online shopping behavior in India is still not well researched. Besides this, little product category-specific prior research was carried out in India by considering millennials in the context of online shopping. There is a lack of research concerning the consumer electronics product category, which is India's most online purchased product category. Therefore, the study selected the consumer electronics product category to be investigated.

Previous studies supported that trust, perceived risk, service quality, and subjective norms were essential determinants of online purchase intention. There are scant previous studies available on product-specific online purchase intention, especially for the millennials cohort in India. This study aims to fill the research gap mentioned above by investigating millennials' online purchase intention for consumer electronics products considering trust, perceived risk, service quality, and subjective norms as the predictors.

Literature Review

Perceived Risk

One of the significant influencing antecedents of online purchase intention is perceived risk. "Perceived risk is defined as the extent to a consumer's belief about uncertain negative outcomes from the online transaction" (Park et al., 2018, p. 2). According to Zeba and Ganguli (2016, p. 18), "perceived risk is the extent to which a user believes that using the Web is unsafe or may have negative consequences in an online shopping context." The perceived risk for online purchase influences the consumers' online intention. Researchers identified seven risk types: opportunity cost risk, performance, psychological, time, financial, physical, and social risks. Perceived risk can be classified into two categories, mainly risk related to products and services and second is risk associated with online shopping transactions. These hurdles make a customer more vulnerable and attentive towards online shopping risks (Mandilas et al., 2013). If consumers perceive online shopping as less risky, they will purchase more and vice versa. It is also considered an antecedent that negatively influences online shopping intention (Clemes et al., 2014; Ha, 2020; Tong, 2010). Further, Rizwan et al. (2014) stated that perceived risk adversely affected consumer behavior to shop online. According to Svorc (2012) and Baskaran et al. (2019), perceived risk is an important and robust antecedent of consumer intention for online shopping (Bianchi & Andrews, 2012).

Perceived risk and trust are highly related in the online shopping environment. Many previous studies have considered trust as an antecedent to perceived risk (Gefen et al., 2003a; Zeba & Ganguli, 2016). However, according to Johnson-George and Swap (1982), "willingness to take risks may be one of the few characteristics common to all trust situations" (p. 1306). Therefore, perceived risk can be an antecedent of trust. According to Thakur et al. (2017), perceived risk is a significant antecedent to build a trustworthy environment in the context of online shopping. Further, few studies tried to investigate the influence of perceived risk on trust. The studies of Hong and Cha (2013), Kim et al. (2014), Faqih (2011), and Lukito and Ikhsan (2020) empirically supported the negative influence of perceived risk on trust in the online shopping context. Therefore, the study hypothesizes that:

🔗 **Ha1** : Perceived risk has a negative effect on trust.

E-Shopping Quality

E-shopping quality is one of the essential antecedents influencing consumers' online shopping intention. Consumers may expect a reliable website, reliable and authentic information about products and services, and better after-sales services. According to Shih (2004), e-shopping can be classified into three categories: quality of information, system quality, and service quality. Website success and acceptance are determined by these three components of e-shopping quality (Çelik, 2011). Online retailers and buyers share information to perform online shopping transactions (Çelik, 2011). “Perceived information quality is defined as the degree to which the user believes that the website's information has the attributes of content, accuracy, format, and timeliness” (Zhu et al., 2012, p. 967). Information quality acts as a driving factor that induces customers towards online shopping (Huy et al., 2019). Further, high information quality positively influences the success of online shopping websites (Zhu et al., 2012). System quality is related to the performance of the online shopping platform or website. It can be accessed through the user-friendliness of the shopping site, its designs, the convenience of use, and the reliability of a website. System quality is assumed to positively influence online shopping acceptance (Çelik, 2011; Suwunniponth, 2014). Service quality in the online shopping context refers to “customers' perceptions of the service's results and perceptions of service recovery” (Alzoubi et al., 2020). SERVQUAL, a measurement tool, was developed with a 45 - item scale by Parasuraman et al. (2002) to measure service quality. Service quality is empirically tested and positively influences consumer intention to shop online (Chandel & Vij, 2019; Shi et al., 2018). Moreover, prior research found that e-shopping quality positively influenced trust towards online shopping intention (Das, 2016; Tran & Vu, 2019; Qalati et al., 2021). Therefore, the study hypothesizes that :

↪ **Ha2** : E-service quality has a positive effect on trust.

Subjective Norms

As Fishbein and Ajzen (1977) proposed in the TRA theory, attitude towards a particular behavior and subjective norms will determine the overall behavioral intention (Khalifa & Ning Shen, 2008). “Subjective norms are the rules by which operates the subjective motivation of individuals to act consistently with the views of the individuals' peers and social group” (Bonera, 2011, p. 826). According to Ajzen (1985), “subjective norms refer to the person's perception of the social pressures put on him or her to perform the behavior in question” (p. 12). In other words, it “refers to the personal inferences about what other people nearby would think of the behavior and the motivation to comply with the inferred thoughts of these people” (Çelik, 2011, p. 395). There is a significant role of friends' suggestions for online shopping and online shopping intention (Al-Maghrabi et al., 2011). According to Çelik (2011), some empirical evidence showed direct and indirect positive influence of subjective norms on online shopping intention. According to Ha et al. (2019) and Ha (2020), subjective norms directly affected behavioral intention. A prior study found that customers depended on the opinion of their social groups for using a shopping website (Srinivasan, 2015). The study of Hitosugi (2011) supported that subjective norms positively influenced trust towards online shopping malls and online transactions. Further, in the context of online health service adoption, Gong et al. (2019) found that subjective norms directly influenced trust towards the service provider. Therefore, the study hypothesizes that :

↪ **Ha3** : Subjective norms have a positive effect on trust.

Trust

The use of technology surfaces the element of trust, which significantly influences an individual's decision to use

or not to use a particular technology. There should be a proper balance between trust and technology to influence customers' decisions for online shopping. As in the case of online shopping, customers cannot touch, feel, and taste the product. Hence, trust becomes an essential element for online shopping decisions (Bonsón Ponte et al., 2015; Rao & Rao, 2019). In general, “trust is viewed as a set of specific beliefs dealing primarily with the benevolence, competence and integrity of another party” (Gefen et al., 2003b, p. 55). Kaushik et al. (2019) defined trust “as the belief that allows consumers to willingly become vulnerable to Web retailers after having taken the retailers' characteristics into consideration” (p. 13). According to Çelik (2011), a higher level of trust results positively in online shopping intention. For trusted online retailers, consumers need less time and effort to search for information, and they spend less time performing online transactions to purchase online (Gefen et al., 2003b; Rita et al., 2019). It is possible to reduce consumers' perceived risk of online shopping by building trust toward online retailers and around the shopping environment. Consumers would not involve in online shopping activities if they perceived online retailers as less trustworthy.

Further, if consumers trust online retailers and believe that it is beneficial, they will consider online shopping to fulfill their shopping objectives (Al-Maghrabi et al., 2011; Gefen et al., 2003b). According to Kesharwani and Singh Bisht (2012), trust is the main factor that helps individuals reduce risks in online transactions (Rai & Basri, 2019). Therefore, trust is essential to understanding customers' online shopping intentions (Gong et al., 2019; Siddiqui & Siddiqui, 2021). Thus, the study hypothesizes that :

⇒ **Ha4** : Trust has a positive effect on online shopping intention.

The Conceptual Framework

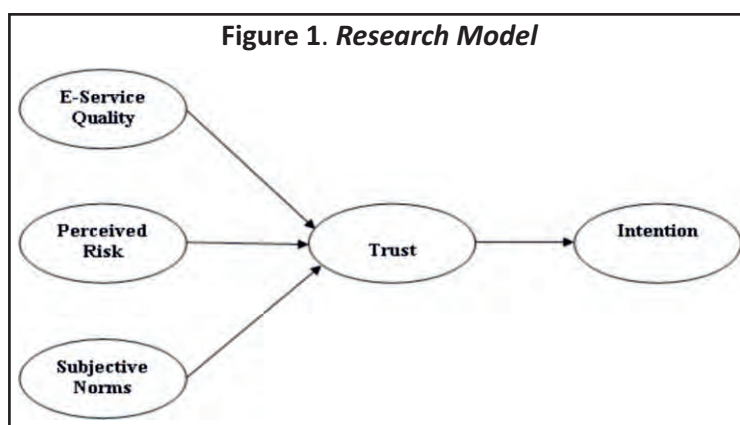
The study has developed the research model in Figure 1 based on previous research to understand the role of e-service quality, perceived risk, subjective norms, and trust on online shopping intention for consumer electronics products. E-service quality, perceived risk, and subjective norms are assumed as independent variables, trust as a mediating variable, and online shopping intention as a dependent variable. The following hypotheses are formulated based on the proposed research model.

⇒ **Ha1** : Perceived risk has a negative effect on trust.

⇒ **Ha2** : E-service quality has a positive effect on trust.

⇒ **Ha3** : Subjective norms have a positive effect on trust.

⇒ **Ha4** : Trust has a positive effect on online shopping intention.



Methodology

The study's nature is explanatory research based on the descriptive research design that explains the relationship between variables that influence the online shopping intention. A survey approach was used to conduct the research. The survey instrument was prepared based on the conceptual model and by considering the extensive literature review. The self-administered questionnaire used a 7-point Likert scale where one corresponds to *strongly disagree* and seven corresponds to *strongly agree*. The items scales for each construct were adopted from past research.

The questionnaire was pretested, and the results show that the reliability test value of Cronbach's α in Table 1 for all the constructs was above the threshold limit that is greater than 0.7, which confirmed the instrument's reliability.

According to Krejcie and Morgan (1970), around 384 sample size would be sufficient for the representativeness of the population. Based on this, the study targeted 600 college students for data collection.

Table 1. Constructs, Items, and Reliability Test

Constructs	Reliability Test - Cronbach's α
Perceived risk scale (<i>PR</i>) with six items	0.833
Trust scale (<i>T</i>) with five items	0.884
Subjective norms scale (<i>SN</i>) with three items	0.848
E-shopping quality scale (<i>ESQ</i>) with eight items	0.886
Intention scale (<i>I</i>) with four items	0.883

Table 2. Demographic Profile of the Respondents

Measure	Items	Frequency
Gender	Male	280
	Female	194
Educational Qualifications	Graduate	234
	Post-graduate	240
City	Ahmedabad	135
	Surat	241
	Vadodara	98
How long have you been using the internet for any purpose?	Less than 1 year	26
	1 – 3 years	154
	4 – 6 years	140
	7 – 9 years	86
	10 – 12 years	42
	13 years or more	26
How long have you been using the internet to purchase consumer electronics?	Less than 1 year	90
	1 – 2 years	174
	3 – 4 years	157
	5 years or more	53

Non-probability convenience was used to select the respondents for the study. The target respondents were college students who qualified for the millennial age category and had an online shopping experience in the last 12 months. Data were collected using the online survey approach with the help of Google during October – December 2020 from Surat, Ahmedabad, and Vadodara cities of Gujarat state. Within two months, we received 489 filled questionnaires, out of which 15 were not adequately responded, thus disqualified, and finally, 474 questionnaires qualified for the analysis. The sample consisted of 280 male and 194 female respondents. Table 2 depicts the demographic profile of the respondents. Finally, structural equation modeling was used to analyze and interpret the data with the help of SPSS and AMOS version 21.

Analysis and Results

Descriptive Statistics of the Scale

Table 3 and Table 4 provide details on constructs' adoption and the descriptive statistics for each scale used in the study. The results indicate that the mean score of all constructs items is above 4 on a scale of 1 – 7, with a standard deviation score close to 1.5 for all items depicted in Table 4. All values of skewness < 3 and kurtosis < 10 indicate that the data can be considered as normally distributed.

Table 3. Constructs, Dimensions, Items, and Reference

Constructs	Dimension	Item Code	Items	Adopted
Trust	Trust in website and online retailer	T2	I trust websites/mobile apps when shopping for consumer electronics.	Kamarulzaman (2007); Jarvenpaa et al. (2000) ; Pavlou (2003)
		T3	I trust online retailers.	
		T4	Online retailers keep their customers' best interests in mind.	
		T5	Overall, the website/mobile app is trustworthy.	
		T6	Overall, online retailers are trustworthy.	
Subjective Norms	Social influence	SN1	Most people who are important to me would think that using the internet to purchase is a wise idea.	Al-Maghrabi (2011)
		SN2	Most people who are important to me agree that I should use the internet to purchase.	
		SN4	My family thinks that I should use the internet to purchase.	
E-Service Quality	Information, service, and system quality	SQ2	Ease of understanding the information will affect my decision to purchase online.	Çelik (2011)
		SQ3	The timeliness of information will affect my decision to purchase online.	
		SQ4	The speed of product delivery will affect my decision to purchase.	
		SQ5	The ease of paying will affect my decision to purchase.	
		SQ6	The ease of returning will affect my decision to purchase.	
		SQ7	The customer service support of websites/mobile apps affects my decision to purchase online.	
		SQ8	The reliability of the website/ mobile app will affect my decision to purchase using the mobile app.	
Perceived Risk	Unfavorable consequences and expected loss	PR4	Using the internet to shop for electronics products would lead to a loss of privacy.	Bianchi & Andrews (2012)

		<i>PR5</i>	I am uncomfortable giving my credit/debit card details when purchasing electronics products on the internet.	
		<i>PR6</i>	Compared with other ways of purchasing electronics products, I think that using the internet is riskier.	
		<i>PR7</i>	There are many uncertainties associated with online shopping of electronic products.	
Purchase Intention	Engaged and likelihood to engage	<i>I1</i>	I use the internet every time I need to purchase electronics products.	Davis (1989)
		<i>I2</i>	I want to continue using online shopping for purchasing electronics products.	
		<i>I3</i>	I consider myself a frequent online shopper for electronics products.	
		<i>I4</i>	I intend to continue to purchase electronics products from the internet in the future.	

Table 4. Descriptive Statistics of Scale

Constructs	Item Code	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Trust	<i>T2</i>	4.92	1.491	-.677	.112	-.033	.224
	<i>T3</i>	4.61	1.554	-.455	.112	-.380	.224
	<i>T4</i>	4.80	1.532	-.669	.112	-.098	.224
	<i>T5</i>	4.97	1.468	-.682	.112	.084	.224
	<i>T6</i>	4.91	1.558	-.638	.112	-.212	.224
Subjective Norms	<i>SN1</i>	4.73	1.565	-.562	.112	-.333	.224
	<i>SN2</i>	4.76	1.507	-.613	.112	-.045	.224
	<i>SN4</i>	4.73	1.627	-.622	.112	-.297	.224
E-Service Quality	<i>SQ2</i>	5.20	1.529	-.743	.112	-.189	.224
	<i>SQ3</i>	5.25	1.494	-.768	.112	-.020	.224
	<i>SQ4</i>	5.28	1.468	-.776	.112	.038	.224
	<i>SQ5</i>	5.28	1.548	-.819	.112	-.015	.224
	<i>SQ6</i>	5.38	1.544	-.856	.112	.034	.224
	<i>SQ7</i>	5.37	1.493	-.955	.112	.413	.224
	<i>SQ8</i>	5.45	1.552	-.983	.112	.251	.224
	<i>PR4</i>	4.35	1.765	-.214	.112	-.967	.224
Perceived Risk	<i>PR5</i>	4.39	1.753	-.275	.112	-.882	.224
	<i>PR6</i>	4.59	1.632	-.291	.112	-.773	.224
	<i>PR7</i>	4.31	1.845	-.250	.112	-1.033	.224
	<i>I1</i>	4.43	1.755	-.329	.112	-.829	.224
Purchase Intention	<i>I2</i>	4.66	1.638	-.483	.112	-.616	.224
	<i>I3</i>	4.75	1.594	-.502	.112	-.502	.224
	<i>I4</i>	4.96	1.568	-.697	.112	-.122	.224

Table 5. Validity Measures

	CR	AVE	MSV	ESQ	T	SN	PR	I
<i>ESQ</i>	0.881	0.554	0.453	0.744				
<i>T</i>	0.884	0.603	0.598	0.673***	0.777			
<i>SN</i>	0.854	0.662	0.598	0.601***	0.773***	0.814		
<i>PR</i>	0.834	0.558	0.067	0.259***	0.186***	0.159**	0.747	
<i>I</i>	0.884	0.656	0.455	0.458***	0.668***	0.675***	0.227***	0.810

Note. ESQ: E-Service Quality, PR: Perceived Risk, SN: Subjective Norms, T: Trust, I: Intention.

Validity

The validity test of the research model was established by calculating discriminant and convergent validity. The convergent validity refers to the degree to which the scores on one scale correlate with scores on other scales designed to assess the same construct; whereas, discriminant validity refers to the degree to which the scores on a scale do not correlate with scores from scales designed to measure different constructs (Cooper et al., 2006). These two validities must be tested before measuring the structural equation model.

Convergent validity is confirmed when average variance extracted (AVE) is greater than or equal to 0.5. From Table 5, it can be inferred that all the AVE values are greater than 0.5, which confirms the convergent validity (Fornell & Larcker, 1981; Henseler et al., 2015).

The discriminant validity is established when the square root of the AVE of each construct is greater than the correlation coefficient between the constructs (Fornell & Larcker, 1981). In Table 5, all bold diagonal square root values of AVE are greater than the correlation coefficient between the constructs. Thus, discriminant validity has been established.

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a technique to confirm the underline theoretical or research model. The CFA specifies the way constructs are related and measured in a theoretical or research model (Hair & Black, 2009).

The AMOS software was used to test the measurement model of confirmatory factor analysis. Table 6 shows goodness of fit measures for the measurement model with ($\chi^2 = 476.696$, $X^2/df = 2.860$, RMSEA = 0.055, GFI = 0.918, CFI = 0.953, NFI = 0.923, TLI = 0.920). The goodness of fit statistics presented in Table 7 also indicate that the measurement model has a moderately acceptable good fit and can be used for further analysis. The

Table 6. Standardized Regression Weights for CFA

Fit indices	Values
χ^2	476.696
Significance	0.000
CMIN/DF	2.408
GFI	0.918
CFI	0.953
NFI	0.923
RMSEA	0.055

Table 7. Standardized Regression Weights for CFA

Constructs		Standardized Regression Weight	
SQ2	<---	ESQ	0.799
SQ3	<---		0.816
SQ4	<---		0.757
SQ5	<---		0.683
SQ6	<---		0.675
SQ7	<---		0.724
T2	<---	T	0.769
T3	<---		0.789
T4	<---		0.776
T5	<---		0.769
T6	<---		0.78
SN1	<---	SN	0.815
SN2	<---		0.88
SN4	<---		0.74
PR4	<---	PR	0.71
PR5	<---		0.762
PR6	<---		0.777
PR7	<---		0.735
I1	<---	I	0.767
I2	<---		0.801
I3	<---		0.841
I4	<---		0.83

results indicate that the items of the constructs are closely related, and the model has good convergent and discriminant validity.

Structural Model Testing

The AMOS 21 is used to test the hypotheses of the study. The structural equation model shows relatively good fit in

Table 8. Measurement Model Fit

Fit Measures	Value	Acceptable Threshold Level
χ^2	510.378	With an insignificant p -value ($p > 0.05$).
(χ^2/df)	2.539	Low χ^2 relative to the degree of freedom.
RMSEA	0.057	The range of 0.05 – 0.10 is considered an indication of a fair fit.
GFI	0.912	Values of 0.90 or greater indicate well-fitting models.
NFI	0.917	Values greater than 0.90 indicate a good fit.
CFI	0.948	Values greater than 0.90 indicate a good fit.

Table 9. Results of the Structural Model

Hypothesis	Path	Standard				Result
		Coefficients	Deviation	t - value	p - value	
Ha1	Perceived risk has a negative effect on trust.	0.024	0.036	00.644	.520	Rejected
Ha2	E-service quality has a positive effect on trust.	0.302	0.049	06.023	.000	Accepted
Ha3	Subjective norms have a positive effect on trust.	0.610	0.052	11.023	.000	Accepted
Ha4	Trust has a positive effect on online shopping intention.	0.695	0.061	12.677	.000	Accepted

Table 8 for the model ($\chi^2 = 510.378$, $X^2/df = 2.539$, GFI = 0.912, NFI = 0.917, CFI = 0.948, RMSEA = 0.057). The goodness of fit statistics presented indicate that the measurement model has a moderately acceptable good fit and can be used for further analysis.

The hypothesis results reveal that three out of four hypotheses are found as significant, and one is insignificant (Table 9).

✎ Ha1 indicates that perceived risk is insignificantly ($\beta = 0.024$, $p = 0.520$) related to trust for online shopping; thus, Ha1 is rejected.

✎ The results of Ha2 indicate that e-service quality is significantly and positively related to trust ($\beta = 0.302$, $p = 0.000$); thus, Ha2 is accepted.

✎ Ha3 indicates that subjective norms are significant ($\beta = 0.610$, $p = 0.000$) and positively related to trust; thus, Ha3 is accepted.

✎ Ha4 indicates that trust towards online shopping websites and online retailers is significant ($\beta = 0.695$, $p = 0.000$) and is positively related to online shopping intention; thus, Ha4 is accepted.

Discussion and Conclusion

The research aims to study millennials' online purchase intention for consumer electronics products by examining the relationship between perceived risk, e-service quality, trust, subjective norms, and online shopping intention. The study's findings reveal that e-service quality and subjective norms influence trust towards the online purchase of consumer electronics products. These results are supported by previous research (Çelik & Yilmaz, 2011; Yang, 2012). As per the study of Kim et al. (2014), subjective norms were positively and significantly associated with trust.

Further, the results also highlight that trust influences online shopping intention for millennials in online purchasing of consumer electronics products. These results confirm the findings of the prior studies. According to Gefen et al. (2003a), Katos (2012), and Bonsón Ponte et al. (2015), trust is a significant predictor of online shopping intention. Hitosugi (2011) studied the relationship between e-service quality and trust for online services and found that they were positively related. Bonsón Ponte et al. (2015) observed that in the context of online travel purchases, perceived information quality (as one of the dimensions of e-service quality) was the main predictor of perceived trust.

Further, the study reveals that there is no significant relationship between perceived risk and trust. In other words, perceived risk does not influence trust for millennials in the context of online purchase of consumer electronics products. This result contradicts the previous literature that supported a negative relationship between perceived risk and trust (Benazić & Tanković, 2015; D'Alessandro et al., 2012).

However, an insignificant effect of perceived risk on trust in the context of online shopping was supported by the findings of Marza et al. (2018), where the relationship between perceived risk and trust was insignificant for online shopping intention. Chin et al. (2018) examined the relationship between perceived risk and trust and investigated the two-way relationship between perceived risk and trust. The results showed an insignificant relationship between perceived risk and trust in both directions.

Further, Marriott and Williams (2018) and Bhatti et al. (2018) indicated that overall perceived risk was an insignificant predictor of mobile shopping intention. The insignificant influence of perceived risk on trust could be caused due to the sample under study. The study has focused on millennials. Their daily activities are highly influenced and driven by digital technology. They are technology savvy and aware of the technology-related risks. According to Lissitsa and Kol (2016), millennials generally conduct prior research before making the final purchase decisions. Thus, millennials consider perceived risk as an essential factor, but it does not significantly influence their online purchase decision for consumer electronics.

Managerial Implications

The present study has significant implications for retailers to increase millennials' intention towards online shopping. The study's empirical results emphasize that retailers should consider millennials as an essential segment of customers. As results show, e-service quality and subjective norms positively influence trust towards online shopping in the case of millennials. While the study reveals that perceived risk does not influence trust towards online shopping, the study also reveals that trust towards online shopping websites and online retailers has a direct significant and positive influence on millennials' online shopping intention. Therefore, online retailers should focus on developing an environment that increases customers' trustworthiness towards online shopping

Table 10. Managerial Implications of the Study

Constructs	Managerial Implications
E-Shopping Quality and Intention	<ul style="list-style-type: none"> • Online retailers should emphasize offering excellent e-shopping services to their customers that include accurate and reliable information of products and services 24/7 on the website, efficient system and its availability 24/7 (website), and satisfactory after-sales services. • Online retailers should build an effective information technology infrastructure so that customers can receive products exactly as per their orders. • Website and mobile applications should have unbreakable security features to protect customers' information and provide a smooth navigation experience during their online shopping. • System (website) quality should be emphasized more on providing easy navigation as well as responsive and uncluttered information to the customer queries and inquiries. • The website should be flexible enough to adjust itself as per the requirements of the consumers.
Subjective Norms and Intention	<ul style="list-style-type: none"> • It is an important factor in the proliferation of social media where people would like to review and comment about their purchase experience. • A satisfied customer is the first key requisite for taking advantage of subjective norms. • An effective review system requires managing online customers' reviews about the products. • Online retailers should develop effective word-of-mouth marketing strategies and should promote them through multiple advertising channels. • Satisfied customers should be offered customized promotional advantages if they act as a referral of an opinion leader.

Perceived Risk, Trust, and Intention

- Online retailers should consider influence marketing as an effective marketing strategy to promote their services.
 - Customer relationship management should be implemented effectively to convert loyal customers into advocate customers.
 - Integrity, confidentiality, authorization, and reliability are the essential parameters for any online shopping website to be incorporated into the shopping environment.
 - Don't send unsolicited and unrelated communication messages or promotions to the customers to increase trustworthiness.
 - Online retailers should position themselves as a risk-free online platform by making it easy to use and error-free.
 - For any organization, maintaining a good relationship with the customers is the key to success. Therefore, online retailers should develop effective customer relationship management strategies to build trust in their customers.
 - Websites and mobile applications should be well protected to safeguard consumers' privacy and data.
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and capitalizes on the implications of perceived risk, subjective norms, and e-service quality to develop effective marketing strategies for millennials. Table 10 provides important managerial implications based on the findings of the study.

Limitations of the Study and Scope for Further Research

The limitations of the study are as follows : First, the study is limited to India only to generalize the findings. Future research is expected in other countries. Second, the study tests and validates the proposed model for consumer electronics products. It would be interesting to test the study model for different product and service categories. Third, the research is limited to millennials as customers and does not cover other age groups; future research may be extended to compare two cohorts to investigate their online shopping behavior. Finally, the present study may be extended by measuring the effect of demographic variables on millennials' shopping behavior towards consumer electronics products.

Authors' Contribution

Dr. Pratiksinh S. Vaghela developed the base and concept for the study to be empirically tested. He conducted an extensive literature review based on the keywords identified with the support of Dr. Hemantkumar P. Bulsara. Dr. Bulsara developed the research design, conceptual framework, and instrument for data collection. Dr. Vaghela developed an online system to collect the data. He also analyzed the collected data with the help of statistical software SPSS and AMOS version 21. Dr. Vaghela wrote the manuscript by taking suggestions from Dr. Bulsara.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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References

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In, J. Kuhl & J. Beckmann (eds.), *Action control. SSSP Springer Series in Social Psychology*. Springer. https://doi.org/10.1007/978-3-642-69746-3_2
- Al-Maghrabi, T., Dennis, C., & Vaux Halliday, S. (2011). Antecedents of continuance intentions towards e-shopping: The case of Saudi Arabia. *Journal of Enterprise Information Management*, 24(1), 85–111. <https://doi.org/10.1108/17410391111097447>
- Alzoubi, H., Alshurideh, M., Al Kurdi, B., & Inairat, 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. <https://doi.org/10.5267/j.uscm.2020.2.005>
- Baskaran, S., Yuen, T. M., Mahmood, Z., Mahadi, N., & Dalayga, B. (2019). Do women buy online impulsively more often out of enjoyment and risk tolerance? *International Journal of Academic Research in Business and Social Sciences*, 9(7), 88–107. <http://dx.doi.org/10.6007/IJARBSS/v9-i7/6094>
- Benazić, D., & Tanković, A. Č. (2015). Impact of perceived risk and perceived cost on trust in the online shopping websites and customer repurchase intention. In, *24th CROMAR Congress: Marketing Theory and Practice - Building Bridges and Fostering Collaboration - Proceedings*. <https://www.bib.irb.hr/783709>
- Bhatti, A., Saad, S., & Gbadebo, S. M. (2018). Convenience risk, product risk, and perceived risk influence on online shopping: Moderating effect of attitude. *International Journal of Business Management*, 3(2), 1–11.
- Bianchi, C., & Andrews, L. (2012). Risk, trust, and consumer online purchasing behaviour: A Chilean perspective. *International Marketing Review*, 29(3), 253–275. <https://doi.org/10.1108/02651331211229750>
- Bonera, M. (2011). The propensity of e-commerce usage: The influencing variables. *Management Research Review*, 34(7), 821–837. <https://doi.org/10.1108/01409171111146706>
- Bonsón Ponte, E., Carvajal-Trujillo, E., & Escobar-Rodríguez, T. (2015). Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents. *Tourism Management*, 47, 286–302. <https://doi.org/10.1016/j.tourman.2014.10.009>
- Çelik, H. (2011). Influence of social norms, perceived playfulness and online shopping anxiety on customers' adoption of online retail shopping: An empirical study in the Turkish context. *International Journal of Retail & Distribution Management*, 39(6), 390–413. <https://doi.org/10.1108/09590551111137967>
- Çelik, H. E., & Yilmaz, V. (2011). Extending the technology acceptance model for adoption of e-shopping by consumers in Turkey. *Journal of Electronic Commerce Research*, 12(2), 152–164.

- Chandel, A., & Vij, R. (2019). E-banking service quality: A scale development and validation attempt. *Indian Journal of Marketing*, 49(9), 23–41. <https://doi.org/10.17010/ijom/2019/v49/i9/146938>
- Chin, A. G., Harris, M. A., & Brookshire, R. (2018). A bidirectional perspective of trust and risk in determining factors that influence mobile app installation. *International Journal of Information Management*, 39, 49–59. <https://doi.org/10.1016/j.ijinfomgt.2017.11.010>
- Clemes, M. D., Gan, C., & Zhang, J. (2014). An empirical analysis of online shopping adoption in Beijing, China. *Journal of Retailing and Consumer Services*, 21(3), 364–375. <https://doi.org/10.1016/j.jretconser.2013.08.003>
- Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods*. McGraw-Hill.
- D'Alessandro, S., Girardi, A., & Tiangsoongnern, L. (2012). Perceived risk and trust as antecedents of online purchasing behavior in the USA gemstone industry. *Asia Pacific Journal of Marketing and Logistics*, 24(3), 433–460. <https://doi.org/10.1108/13555851211237902>
- Das, G. (2016). Antecedents and consequences of trust: An e-tail branding perspective. *International Journal of Retail & Distribution Management*, 44(7), 713–730. <https://doi.org/10.1108/IJRDM-06-2015-0089>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Drenik, G. (2019, July 9). What millennials want when they shop online. *Forbes*. <https://www.forbes.com/sites/forbesinsights/2019/07/09/what-millennials-want-when-they-shop-online/?sh=3bc502d44ed9>
- Faqih, K. M. (2011). Integrating perceived risk and trust with technology acceptance model: An empirical assessment of customers' acceptance of online shopping in Jordan. In, *2011 International Conference on Research and Innovation in Information Systems* (pp. 1–5). IEEE. <http://dx.doi.org/10.1109%2FICRIIS.2011.6125686>
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, 10(2), 130–132. <https://doi.org/10.2307/2065853>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177%2F002224378101800104>
- Gefen, D., Karahanna, E., & Straub, D. W. (2003a). Inexperience and experience with online stores: The importance of TAM and trust. *IEEE Transactions on Engineering Management*, 50(3), 307–321. <https://doi.org/10.1109/tem.2003.817277>
- Gefen, D., Karahanna, E., & Straub, D. W. (2003b). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90. <https://doi.org/10.2307/30036519>
- Gong, Z., Han, Z., Li, X., Yu, C., & Reinhardt, J. D. (2019). Factors influencing the adoption of online health consultation services: The role of subjective norm, trust, perceived benefit, and offline habit. *Frontiers in Public Health*, 7, 286. <https://doi.org/10.3389/fpubh.2019.00286>
- Ha, N. T. (2020). The impact of perceived risk on consumers' online shopping intention: An integration of TAM and TPB. *Management Science Letters*, 10(9), 2029–2036. <http://dx.doi.org/10.5267/j.msl.2020.2.009>

- Ha, N. T., Nguyen, T. L., Nguyen, T. P., & Nguyen, T. D. (2019). The effect of trust on consumers' online purchase intention: An integration of TAM and TPB. *Management Science Letters*, 9(9), 1451–1460. <http://dx.doi.org/10.5267/j.msl.2019.5.006>
- Hair, J., & Black, W. (2009). *Multivariate data analysis*. Prentice-Hall.
- Henseler, J., Ringle, C. M., & Sarstedt, M. A. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hitosugi, C. (2011). *Trust on the web: The power of subjective norm across cultures*. The University of Hawaii at Manoa. http://claireh.weebly.com/uploads/5/2/9/9/5299882/hitosugi_sninonlinetrust_crosscultureconf_dec2011.pdf
- Hong, I. B., & Cha, H. S. (2013). The mediating role of consumer trust in an online merchant in predicting purchase intention. *International Journal of Information Management*, 33(6), 927–939. <https://doi.org/10.1016/j.ijinfomgt.2013.08.007>
- Huy, L. V., Thinh, N. H., Pham, L., & Strickler, C. (2019). Customer trust and purchase intention: How do primary website service quality dimensions matter in the context of luxury hotels in Vietnam. *International Journal of E-Services and Mobile Applications (IJESMA)*, 11(1), 1–23. <http://dx.doi.org/10.4018/IJESMA.2019010101>
- India Brand Equity Foundation. (2021, December 17). *E-commerce industry in India*. <https://www.ibef.org/industry/ecommerce.aspx>
- Jarvenpaa, S. L., Tractinsky, N., & Vitale, M. (2000). Consumer trust in an Internet store. *Information Technology and Management*, 1(1), 45–71. <https://doi.org/10.1023/a:1019104520776>
- Johnson-George, C., & Swap, W. C. (1982). Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. *Journal of Personality and Social Psychology*, 43(6), 1306–1317. <https://doi.org/10.1037/0022-3514.43.6.1306>
- Kamarulzaman, Y. (2007). Adoption of travel e-shopping in the UK. *International Journal of Retail & Distribution Management*, 35(9), 703–719. <https://doi.org/10.1108/09590550710773255>
- Katos, V. (2012). An integrated model for online transactions: Illuminating the black box. *Information Management & Computer Security*, 20(3), 184–206. <https://doi.org/10.1108/09685221211247299>
- Kaushik, A. K., Mohan, G., & Kumar, V. (2019). Examining the antecedents and consequences of customers' trust toward mobile retail apps in India. *Journal of Internet Commerce*, 19(1), 1–31. <https://doi.org/10.1080/15332861.2019.1686333>
- Kesharwani, A., & Singh Bisht, S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing*, 30(4), 303–322. <https://doi.org/10.1108/02652321211236923>
- Khalifa, M., & Ning Shen, K. (2008). Explaining the adoption of transactional B2C mobile commerce. *Journal of Enterprise Information Management*, 21(2), 110–124. <https://doi.org/10.1108/17410390810851372>
- Kim, Y. J., Han, S. M., & Lee, E. (2014). The role of trust in online shopping malls: Different types of trust and how they affect consumer intention. *International Journal of Electronic Commerce Studies*, 4(2), 355–358. <http://dx.doi.org/10.7903/ijecs.1127>

- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- Lissitsa, S., & Kol, O. (2016). Generation X vs. generation Y – A decade of online shopping. *Journal of Retailing and Consumer Services*, 31, 304–312. <https://doi.org/10.1016/j.jretconser.2016.04.015>
- Lukito, S., & Ikhsan, R. (2020). Repurchase intention in e-commerce merchants: Practical evidence from college students. *Management Science Letters*, 10(13), 3089–3096. <http://dx.doi.org/10.5267/j.msl.2020.5.014>
- Mandilas, A., Karasavoglou, A., Nikolaidis, M., & Tsourgiannis, L. (2013). Predicting consumer's perceptions in online shopping. *Procedia Technology*, 8, 435–444. <https://doi.org/10.1016/j.protcy.2013.11.056>
- Marriott, H. R., & Williams, M. D. (2018). Exploring consumers perceived risk and trust for mobile shopping: A theoretical framework and empirical study. *Journal of Retailing and Consumer Services*, 42, 133–146. <https://doi.org/10.1016/j.jretconser.2018.01.017>
- Marza, S., Idris, I., & Abror, A. (2018, November). The influence of convenience, enjoyment, perceived risk, and trust on the attitude of Padang State University students towards online shopping. In, *The 2nd Padang International Conference On Education, Economics, Business and Accounting (THE 2nd PICEEBA 2018)*. <https://doi.org/10.2991/piceeba2-18.2019.40>
- Narula, A. (2021, March 14). Shopping behaviours of young millennials and Generation-Z: Implications for companies. *ET Brand Equity.com*. <https://brandequity.economicstimes.indiatimes.com/news/marketing/shopping-behaviours-of-young-millennials-and-generation-z-implications-for-companies/81487450>
- Parasuraman, A., Berry, L., & Zeithaml, V. (2002). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing*, 67(4), 114–139.
- Park, J., Amendah, E., Lee, Y., & Hyun, H. (2018). M-payment service: Interplay of perceived risk, benefit, and trust in service adoption. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 29(1), 31–43. <https://doi.org/10.1002/hfm.20750>
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 101–134. <https://doi.org/10.1080/10864415.2003.11044275>
- Qalati, S. A., Vela, E. G., Li, W., Dakhan, S. A., Hong Thuy, T. T., & Merani, S. H. (2021). Effects of perceived service quality, website quality, and reputation on purchase intention : The mediating and moderating roles of trust and perceived risk in online shopping. *Cogent Business & Management*, 8(1), 1869363. <https://doi.org/10.1080/23311975.2020.1869363>
- Rai, S., & Basri, S. (2019). Relational selling, relationship quality, and future behavioural intentions in the health insurance industry. *Indian Journal of Marketing*, 49(9), 57–68. <https://doi.org/10.17010/ijom/2019/v49/i9/146940>
- Rao, K. S., & Rao, B. (2019). Examining EWOM credibility - consumer purchase intention relationship in Facebook: A mediation analysis. *Indian Journal of Marketing*, 49(8), 7–22. <https://doi.org/10.17010/ijom/2019/v49/i8/146169>

- Rita, P., Oliveira, T., & Farisa, A. (2019). The impact of e-service quality and customer satisfaction on customer behavior in online shopping. *Heliyon*, 5(10), e02690. <https://doi.org/10.1016/j.heliyon.2019.e02690>
- Rizwan, M., Umair, S. M., Bilal, H. M., Akhtar, M., & Bhatti, M. S. (2014). Determinants of customer intentions for online shopping: A study from Pakistan. *Journal of Sociological Research*, 5(1), 248 – 272. <https://doi.org/10.5296/jsr.v5i1.6565>
- Sayed, S. (2020, March 20). What's stopping millennials from buying term insurance: 4 habits that are blocking the way. *The Economic Times*. <https://economictimes.indiatimes.com/wealth/insure/life-insurance/whats-stopping-millennials-from-buying-term-insurance-4-habits-that-are-blocking-the-way/articleshow/74704594.cms>
- Shi, S., Mu, R., Lin, L., Chen, Y., Kou, G., & Chen, X.-J. (2018). The impact of perceived online service quality on Swift Guanxi. *Internet Research*, 28(2), 432 – 455. <https://doi.org/10.1108/IntR-12-2016-0389>
- Shih, H. - P. (2004). An empirical study on predicting user acceptance of e-shopping on the web. *Information & Management*, 41(3), 351–368. [https://doi.org/10.1016/S0378-7206\(03\)00079-X](https://doi.org/10.1016/S0378-7206(03)00079-X)
- Siddiqui, A., & Siddiqui, M. (2021). Buy my trust, before I buy your food – Consumers' insights for online food delivery platforms during the COVID -19 pandemic. *Indian Journal of Marketing*, 51(12), 26 – 40. <https://doi.org/10.17010/ijom/2021/v51/i12/167218>
- Singh, S., Kapoor, P., Srivastava, S., & Prakash, A. (2021). Impact of media on the health consciousness of the millennial generation. *Prabandhan: Indian Journal of Management*, 14(12), 35–53. <https://doi.org/10.17010/pijom/2021/v14i12/167459>
- Smith, K. T. (2012). Longitudinal study of digital marketing strategies targeting millennials. *Journal of Consumer Marketing*, 29(2), 86 – 92. <https://doi.org/10.1108/07363761211206339>
- Srinivasan, R. (2015). Exploring the impact of social norms and online shopping anxiety in the adoption of online APPAREL shopping by Indian consumers. *Journal of Internet Commerce*, 14(2), 177–199. <https://doi.org/10.1080/15332861.2015.1008891>
- Suwanniponth, W. (2014). Factor driving consumer intention in online shopping. *International Journal of Economics and Management Engineering*, 8(6), 1949 – 1953.
- Svorc, J. (2012). Consumer's intentions to shop medicaments online: A survey from Czech Republic market. *Journal of Systems Integration*, 3(2), 3 – 28.
- Thakur, A., Shabnam, & Kaur, R. (2017). An empirical study on consumer trust in online shopping in Punjab. *Indian Journal of Marketing*, 47(2), 47–59. <https://doi.org/10.17010/ijom/2017/v47/i2/110027>
- Tong, X. (2010). A cross-national investigation of an extended technology acceptance model in the online shopping context. *International Journal of Retail & Distribution Management*, 38(10), 742–759. <https://doi.org/10.1108/09590551011076524>
- Tran, V. - D., & Vu, Q. H. (2019). Inspecting the relationship among e-service quality, e-trust, e-customer satisfaction and behavioral intentions of online shopping customers. *Global Business & Finance Review (GBFR)*, 24(3), 29 – 42. <http://dx.doi.org/10.17549/gbfr.2019.24.3.29>
- Yang, K. (2012). Consumer technology traits in determining mobile shopping adoption: An application of the extended theory of planned behavior. *Journal of Retailing and Consumer Services*, 19(5), 484–491. <https://doi.org/10.1016/J.JRETCONSER.2012.06.003>

- Zeba, F., & Ganguli, S. (2016). Word-of-mouth, trust, and perceived risk in online shopping. *International Journal of Information Systems in the Service Sector*, 8(4), 17–32. <https://doi.org/10.4018/ijiss.2016100102>
- Zhu, D. - S., Lin, T. C. - T., & Hsu, Y. - C. (2012). Using the technology acceptance model to evaluate user attitude and intention of use for online games. *Total Quality Management & Business Excellence*, 23(7–8), 965–980. <https://doi.org/10.1080/14783363.2012.704269>

About the Authors

Dr. Hemantkumar P. Bulsara is an Associate Professor of Management, In-Charge: Management section, and Former Head, Applied Mathematics and Humanities Department, S. V. National Institute of Technology (NIT), Surat, Gujarat. He holds over 20 years of academic and research experience. His interest areas include technology innovations and entrepreneurship, technology business incubation, marketing management, supply chain management, and general management.

Dr. Pratiksinh S. Vaghela is working as an Assistant Professor at S. R. Luthra Institute of Management, Sarvajanik University, Surat, Gujarat. He has 12 years of academic experience. His research areas are marketing, online shopping behavior, research methodology, and data analysis.