

The influence of website functionality, drivers and perceived risk on customer satisfaction in online shopping: an emerging economy case

Urvashi Tandon¹ · Ravi Kiran¹ · Ash N. Sah¹

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Abstract The study analyzed website functionality, perceived risk and drivers of online shopping to evaluate their impact on customer satisfaction in India. The study empirically validates ease of ordering, Cash-on-delivery mode of payment, website functionality and different facets of perceived risk with Unified theory of acceptance and use of technology 2 (UTAUT2) (Venkatesh et al. in MIS Q 36(1):157–178, 2012). Findings of the study revealed that perceived risk had a negative relation with customer satisfaction where as the website functionality and drivers were positively associated with customer satisfaction. The research will help online retailers to recognize the important success factors that instill confidence among the consumers in developing economies. The study will also help online retailers to focus in the right direction to eliminate threats and convert non shoppers to online shoppers. The study throws light on a new aspect to research by validating the role of cash-on-delivery (COD) mode of payment as a construct and ease of ordering as new dimension to UTAUT2.

Keywords Customer satisfaction · UTAUT2 · Perceived risk · Drivers of online shopping · Website functionality · Online shopping · India

✉ Urvashi Tandon
urvashiguptav@gmail.com

Ravi Kiran
rkiran@thapar.edu

Ash N. Sah
asah259@gmail.com

¹ School of Humanities and Social Sciences (SHSS), Thapar University,
P.O. Box 32, Patiala 147004, India

1 Introduction

With the development of internet and its adoption as a new channel of marketing online shopping has become the promising shopping mode with a sizable potential for growth. In the recent years online shopping has been increasing at a much faster pace and in present competitive environment it becomes imperative to understand various aspects of online shopping scenario in all perspectives. Internet shopping has gained momentum in many Asian and other developing countries due to factors like rapid access to product related information, time convenience, traffic jams, limited time, parking space etc. and above board Cash-on-delivery mode of payment (COD) (Tandon et al. 2016b). Online retailers offer wide assortment of products in their retail basket without any physical presence and cater to the needs of the consumers in finding products missing from the shelves in their neighborhood stores with multiple payment options like credit card,/debit card and COD etc. With every passing day more and more traditional retailers are coming in the folds of online retailing as a part of their business mechanism to attain a competitive edge.

There are approximately 300 million Internet users in India. This number may not look appreciable if we consider the 1.3 billion population of the country. Conversely, that has not deterred Indian consumers from recording a 30 per cent CAGR in digital commerce in the last fiscal year (CRISIL Research 2014). Due to commencement of 4G service and diminishing broadband subscription prices, a recent surge in the domain of e-business has been observed and Indian consumers have embarked upon a myriad of activities like purchasing from apparel to accessories, groceries to furniture and beauty products to ticketing etc., online.

In terms of size, India's online retail industry is very small compared to both organized and overall (organized + unorganized) retail. Its share of the overall retail (organized + unorganized) pie was estimated to be just over 1 per cent against 9–10 per cent in the US and UK, and around 4–5 per cent in China (CRISIL Research 2014). Owing to diffusion of social media in the urban and semi-urban areas, online retailers have ample opportunities of growth in these unexplored markets. Though retail e-commerce still holds a small share in the total retail sales in India (approx 1.7 per cent as recorded in 2015) and industry experts firmly believe it is still at an embryonic stage yet has immense growth potential. E-commerce is expected to acquire 4.8 per cent market share in total retail sales by 2019. Online retail has grown by 57 per cent since December 2014 whereas online travel continues to dominate its share in the overall Digital Commerce standing at 61 percent. Various agencies have high expectations about growth of Indian e-commerce markets. India's Business to Business (B2B) e-commerce market is expected to reach US\$ 700 billion by 2020 whereas the Business to Consumer (B2C) e-commerce market is expected to reach US\$ 102 billion by 2020. Online retail is expected to be at par with the physical stores in the next 5 years (CRISIL Research 2014).

The recently experienced rapid growth in online shopping in India may be attributed to "Cash-on-delivery" (COD) mode of payment. Before the introduction of COD mode of payment most of the online retailers provided payment options through credit card/debit card where consumers had to provide card/payment details

online. These payment options inhibited Indians to shop online. Moreover, low penetration of credit card and debit card in Indian society also restrained people to shop online. The Indian consumers acknowledged COD as it reduced the distrust and inhibitions about delivery of fake and faulty products. Importantly, COD option competently entails online retailers to transport the right product as well as offer swift delivery and enhanced customer services to the consumers in order to ensure customer satisfaction. There are few studies on online shopping that have highlighted COD mode of payment as a stimulator of online shopping (Kandulapati and Bellamkonda 2014; Thakur and Srivastava 2015; Sharma and Rawat 2014; Tandon et al. 2016b), but its relationship with customer satisfaction and as a separate construct has not been empirically analyzed amply. Therefore, COD is validated as a construct in this study.

In online shopping, customer satisfaction can have a momentous impact, both positive and negative on attainment of new customers. The exponential growth in the number of online retailers in recent years has guided towards the increased role of customer satisfaction. The importance of customer satisfaction has been recognized in the literature also (Guo et al. 2012; Tandon et al. 2016a; Athanasopoulou 2009). Throughout online shopping, customer satisfaction has been a crucial aspect for consumers to decide for purchase of product due to perceive risks such as financial risk, product performance risk, social risk, security risk and privacy risk. Thus, critical balance of website functionality and drivers becomes mandatory for achieving customer satisfaction. In this study, the research model proposed enhances our understanding of website functionality, drivers and perceived risk and their impact on customer satisfaction.

Most of the reported models and frameworks have been derived mainly from the research conducted in industrialized and western countries (Bathgate et al. 2006). Research paradigms and models developed for US and Western Europe are relevant mainly in western context (Palvia 2013). Although, there has been spurt of online shopping in India and other Asian emerging markets since last decade, yet the research in these markets is still pursued with less vigor as compared to such studies in western countries (Omar et al. 2011). Moreover, emerging markets have diverse institutional contexts in terms of their socio-economic and regulatory aspects, which places an increasing demand for validation of the models developed in advanced countries in the emerging countries with diverse cultures (Palvia 2013; Omar et al. 2011). In addition, India not only differs from other western countries in culture, and tradition and but also lags behind in logistic infrastructure. Prior researches indicate that culture (Erumban and Jong 2006), logistics (Sharma et al. 1995) and credit (Gentry 1982) have an important impact on customer behavior and satisfaction. Therefore, it is understandable that key drivers of online shopping customer satisfaction in India may be different from that of other countries. Based on the assertion that purchasing online is perceived to be riskier than purchasing through brick and mortar the present study integrates perceived risk factors (Featherman and Pavlou 2003) with UTAUT2 (Venkatesh et al. 2012). Hence the results of this study will provide online retailers with productive alternatives and help them understand the predictors of e-shopping to help design appropriate policies and actions for enhancing it. The research will also help online retailers to

recognize the important success factors that instil confidence among the consumers in such economies. The study throws light on a new aspect to research by validating the role of COD mode of payment and ease of ordering as a new dimension to UTAUT2.

The next section covers the technology acceptance models, the researchers concept of perceived risk, website functionality and drivers of online shopping leading to conceptualization of research model, the testing of the model and finally, discussing the results. The paper also covers the implications for the theory and practice.

2 Theoretical background and hypothesis development

2.1 Theories and models of technology adoption

The theories and models that have explained technology adoption are summarized as follows:

Theory of Reasoned Action (TRA) (Fishbein and Ajzen 1975) proposes three general constructs, namely “behavioural intention (BI), attitude (A), and subjective norm (SN)”. According to TRA behavioural intention of a person depends on his attitude and subjective norms. This theory highlights that individuals would use computers if they could see that there would be positive benefits (outcomes) associated with using them.

The Theory of Planned Behaviour (TPB) was proposed by Ajzen in 1991 and was developed from the Theory of Reasoned Action (TRA). TPB added the concept of Perceived Behavioural Control (PBC) to the constructs attitudes and subjective norms which make the TRA. Perceived behavioural control refers to “people’s perception of the ease or difficulty of performing the behaviour of interest”.

Technology Acceptance Model (TAM) was given Davis in 1989. Since then the model has caught the attention of researchers basically to understand the users’ behavioral intention for accepting or rejecting a technology. The basis of TAM is Fishbein and Ajzen’s (1975) theory of reasoned action. TAM model is based on two predictors viz., perceived ease of use (PEOU) and the second predictor is perceived usefulness (PU). Dependent variable used in this theory was behavioral intention. TAM has been extremely used in research and has been modified by integrating variables like self efficacy (Taylor and Todd 1995), innovativeness and technology anxiety (Kim and Forsythe 2010), perceived value, trust, internet literacy and privacy (Rezaei et al. 2014). However, the literature recognizes the parsimonious nature of TAM as its key limitation (Tong 2010).

Task Technology Fit Model (TTF) holds that Information Technology (IT) is more likely to have optimistic impact on individual, systems reliability, and relationship with users (Goodhue and Thompson 1995). TTF consists of eight factors: quality, locatability, authorization, compatibility, ease of use/training, production timeliness foremost theoretical perspective to gain widespread acceptance in technology adoption research.

Venkatesh and Davis (2000) modified TAM and developed TAM2 by incorporating additional key constructs namely social influence processes (subjective norm, voluntariness and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability and perceived ease of use as a determinant of perceived usefulness).

Unified theory of acceptance and use of technology UTAUT and UTAUT2 Venkatesh et al. (2003) came out with Unified theory of acceptance and use of technology (UTAUT) by combining variables in eight dominant theories and models, namely: the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model, the Theory of Planned Behaviour (TPB), a combined TBP/TAM, the model of PC Utilization, Innovation Diffusion Theory (IDT) and Social Cognitive theory (SCT). UTAUT is based on following core variables.

Performance expectancy is the degree to which an individual believes that using a system will help to attain gains in job performance (Venkatesh et al. 2012, p. 159). It is similar to perceived usefulness in TAM and relative advantage in DOI.

Effort expectancy is the degree of ease associated with the use of system (Venkatesh et al. 2012, p. 159). It is analogous with perceived ease of use in TAM and complexity in DOI.

Social influence is the degree to which an individual perceives that important others believe he/she should use the system (Venkatesh et al. 2012, p. 159). It is similar to subjective norm in TAM 2).

Facilitating conditions are the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Venkatesh et al. 2012, p. 159). It is analogous to perceived behavioral control in TAM-TPB.

Since its publication, a number of researchers have tested either the entire model or a part of it in diverse ethno-socio-economic scenarios as well as in different organizational settings in order to confirm its generability. UTAUT has been empirically tested and proven superior to other models (Venkatesh et al. 2003, Zhou 2012). A number of researchers have attempted to examine UTAUT in new contexts and in new cultural settings like China (Lian and Yen 2014), Iran (Yaprakli et al. 2013), India (Sareen and Jain 2014).

Adopting extensive exploratory techniques to understand technology adoption in diverse perspectives has led an element of confusion among researchers. The researchers frequently picked and selected characteristics across wide variety of existing models and theories. To counter this confusion, Venkatesh et al. (2012) developed a modified unified model to consolidate different views on technology acceptance. The unified theory of acceptance and use of technology 2 (UTAUT 2) by modifying his UTAUT model. Three additional constructs namely Hedonic motivation (HM), Price value (PV) and Habit (HAB) were incorporated in UTAUT 2. Individual differences namely age, gender and experience were hypothesized to moderate their effect on behavioral intention and technology use. Compared to UTAUT, the extensions proposed in UTAUT produced a substantial improvement in variance explained in behavioral intention (56–74 percent) and technology use (40–52 percent). The additional variables in UTAUT2 are defined as follows:

Hedonic motivation (HM) is the fun or pleasure derived from using a technology (Venkatesh et al. 2012, p. 161).

Price value (PV) is consumer's cognitive tradeoff between the perceived benefits of the applications and monetary cost from using them (Venkatesh et al. 2012, p. 161).

Habit (HAB) is the extent to which people tend to perform behaviours automatically because of learning (Venkatesh et al. 2012, p. 161).

In UTAUT2 only mobile internet was taken into consideration and Venkatesh et al. (2012) invited researchers to validate the model in miscellaneous cultures with different technologies. According to Williams et al. (2015) UTAUT has been tested by exploring alternative relationships between its constituent components in various contexts and environments, but there are still ample and clear opportunities for researchers to engage with and further shape and develop the field (p. 470). The present study tries to validate UTAUT2 in Indian settings for online shopping. Table 1 depicts the summary of various technology adoption models.

Further, culture plays an important role technology adoption. Hofstede (1997, p. 21) defined national culture as "the collective programming of the mind which distinguishes the members in one human group from another". Generally, research on national culture has considered Hofstede's cultural dimensions and concepts, including those who disagreed with his dimensions (McCoy et al. 2007). Therefore,

Table 1 Summary of various technology adoption models

Theory	References	Key constructs
Theory of reasoned action	Fishbein and Ajzen (1975)	Behavioral intention, attitude (A), and subjective norm
Social cognitive theory	Bandura (1986)	Affect, anxiety
Theory of planned behavior	Ajzen (1991)	Behavioral intention, attitude (A), subjective norm and perceived behavioral control
Technology acceptance model (TAM)	Davis (1989)	Perceived usefulness and perceived ease-of-use
The model of PC utilization	Thompson et al. (1991)	Job-fit, complexity, long-term consequences, affect towards use, social factors and facilitating conditions
The motivation model	Davis et al. (1992)	Extrinsic motivation (PU, PEoU, SN) and intrinsic motivation (perception of pleasure and satisfaction)
Extended TAM2 model	Venkatesh and Davis (2000)	Social influence processes (SN, voluntariness and image) and cognitive instrumental process (job relevance, output quality, result demonstrability and PEoU)
Unified theory of acceptance and use of technology (UTAUT)	Venkatesh et al. (2003)	Performance expectancy, effort expectancy, social influence and facilitating conditions
Unified theory of acceptance and use of technology 2 (UTAUT 2)	Venkatesh et al. (2012)	Performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit

an overview of Hofstede's national cultural dimensions and their comparison with developed countries (e.g. USA) has been considered as theoretical background in this research to access the impact of national culture on e-retailing adoption in India (Appendix 2). As Indian culture is more heterogenic and culturally pluralistic in nature as compared to western cultures, therefore the perceptions, attitude and behavior of internet users may be different from the technologically advanced countries. Thus, it becomes imperative to compare both India and Western cultures to understand e-shopping adoption. A comparison of Indian culture versus American culture (representing technologically advanced countries) based on Hofstede's cultural values was undertaken to support theoretical background. Indian culture is high on power distance (77 vs. 40) and long term orientation (61 vs. 26) (Hofstede 2001). Indian culture with high power distance indicates that there is a significant role of friends, family members and peers in decision making towards adoption of a technology. On the other hand, American culture is high on individualism (91 vs. 48), indulgence (68 vs. 26), masculinity versus Femininity (62 vs. 52) and uncertainty avoidance (46 vs. 40). Countries like India where collectivistic culture prevails along with low indulgence, preference is given to group task and their actions are controlled by social norms. Indulging in something new is not encouraged in these cultures and trust plays a major role in adopting any technology. The perception of an individual is influenced by opinion of one's family, extended family and other wider social networks where as individualistic cultures people choose their own affiliations. According to Erumban and Jong (2006), confirmed a significant association between cultural factors and the adoption factors. Countries with high scores in uncertainty avoidance and power distance are more risk-adverse and do not like making changes or doing something for the first time (Erumban and Jong 2006, p. 8). This difference in the perception of people in developed and developing countries suggests the need for undertaking a comprehensive study to understand the adoption of online shopping in India.

2.2 Literature review and hypotheses development

2.2.1 Customer satisfaction

Customer satisfaction may be defined as a post consumption judgement concerning a specific product or service (Gundersen et al. 1996). Customer satisfaction has been defined as "customer's fulfilment response" which is an evaluation as well as an emotion-based response (Oliver 1997, p. 13). Customer satisfaction is viewed as a result of comparison between the consumption, expectation and experience and customer satisfaction is achieved when the final deliverable (i.e., experience) is up to expectation (Khristianto et al. 2012). Customer satisfaction plays a pertinent role in online shopping, as it influences consumer decisions to continue online shopping or not. Many researchers have examined customer satisfaction in online environment (Liu et al. 2008; Szymanski and Hise 2000). Customer satisfaction in an online business is a key factor to profitability (Guo et al. 2012) and satisfied consumers are more likely to repurchase more in the future than dissatisfied customers (Garcia et al. 2012). Hence, customer satisfaction plays a substantial role in the judgment

making for online shoppers thus leading to repetitive purchases. End user experience has developed into a vital factor in internet-based businesses because the end user often pays for the majority of services and new products. New product characteristics such as quality, perceived ease of use, appeal, aesthetics and value for money must be surpassed with customers' expectations toward the product. Therefore, assessing customer satisfaction has become vital, especially for high tech products and services. In order to improve business performance and enhance the intensity of consumer satisfaction, online retailers should have a comprehensible and deep understanding of the antecedents of consumer satisfaction in an online environment. Therefore, customer satisfaction is taken as a dependent variable in the study.

2.2.2 Website functionality

Website functionality illustrates the extent to which website operates in the way it is structured and is expected to perform as users' desire (Bertot et al. 2006). The evaluation of websites through functionality can help organizations perk up and modernize their targets and services (Bertot et al. 2006). The dimensions of website quality, satisfaction and customer loyalty identified by Wolfinbarger and Gilly (2003) are: website design, fulfilment/reliability, privacy/security and customer service. Kim and Stoel (2004) identified six dimensions of online retailing websites namely web appearance, informational fit-to task, transaction capability, entertainment, response time and trust. Seffah et al. (2008) included security as a functionality factor. Liang et al. (2007) suggested customization as an important functionality factor which increases user satisfaction by limiting information overload on users. Gehrt et al. (2012) and Guo et al. (2012) recognized website design as an important factor of online retailing websites. Calisir et al. (2010) confirmed security, search options, user-guidance and customizability as significant functionality factors. Abdallah and Jaleel (2015) suggested customization as a significant functionality factor which increases user satisfaction by limiting information overload on users.. But most researchers cover a small part of available functions of website only. Benslimane and Yang (2007) argued that adding advanced functionalities to a full-fledged website has a negative effect on website efficiency. Therefore, surplus functionality can actually reduce the performance of a website. For meeting the requirements of consumers, it is critical to understand and balance the functionality of website. The dimensions covered in this study are: security and privacy, navigation, website design, customization and consistency. The existing literature suggests that these as dimensions of the construct namely "website functionality". To understand the important functionality dimensions, following hypothesis is proposed:

H1(a) Website functionality is a multidimensional construct significantly predicted by security and privacy, website design, navigational characteristics, customization and consistency feature.

Researchers have developed various aspects to predict security features of website (Rezaei et al. 2014; Tandon et al. 2016a), website design (Tandon et al.

2016a; Guo et al. 2012) and navigability (Lee and Kozar 2012) which leads to customer satisfaction. Tandon et al. (2016a) confirmed impact of security and privacy, navigation and website design on customer satisfaction. Guo et al. (2012) opined that website design, information quality, payment method, e-service quality, product quality and delivery service are positively related to customer satisfaction. Liu et al. (2008) suggested information quality, website design, merchandise attributes, transaction capability, security, payment, delivery and customer service as strong antecedents of customer satisfaction. Negative website performance will affect the online shoppers more than the positive performance. Cho and Lau (2014) confirmed that information, product and sales' service customizations have considerable influence on customer satisfaction. Chang et al. (2015) demonstrated that website familiarity and trialability positively influences product familiarity. Therefore, website functionality is important for customer satisfaction and needs to be examined in greater depth. The proposed features identified through literature review include, security and privacy, website design, navigational characteristics, customization and consistency features of website are hypothesised to have a positive impact on Customer Satisfaction. Therefore, the related hypothesis is:

H1(b) There is a significant positive association between website functionality and customer satisfaction.

2.2.3 Drivers of online shopping

Since, UTAUT2 is an established model to envisage information technologies' adoption. Therefore, the variables of UTAUT2 are validated as drivers to online shopping in the present study also. Two new relationships viz., ease of ordering and COD have been added to analyze their relationship with customer satisfaction.

Performance expectancy Performance expectancy has emerged as a strongest predictor of online shopping in previous studies (Tandon et al. 2016b; Lian and Yen 2014). Yaprakli et al. (2013) in their study on consumers of Iran also confirmed performance expectancy as a strongest predictor of online shopping. Lian and Yen (2014) studied barriers and drivers of older adults and found performance expectancy as major driver of online shopping. Im et al. (2011) examined the relationships of constructs in UTAUT model on consumers of US and Korea and found that the impact of performance expectancy on behavior intention are greater in US sample than in Korean sample. Ghalandari (2012) and Foon and Fah (2011) confirmed performance expectancy significantly influence users' behavior in e-banking services. Tandon et al. (2016b) also confirmed performance expectancy as predictor of online shopping in India. On the other hand, Sareen and Jain (2014), Al-Sobhi et al. (2011) found no significant relationship between performance expectancy and behavior intention. Therefore, to understand its impact in Indian online shoppers, performance expectancy is considered as a driver in the present study.

Effort expectancy Effort expectancy has emerged as the strongest predictor influencing online shopping as highlighted in previous studies (Yaprakli et al. 2013; Sareen and Jain 2014). Al-Gahtani et al. (2007) investigated applicability of

UTAUT in Saudi Arabia and found significant effect of effort expectancy on the consumers. Im et al. (2011) examined the relationships of constructs in UTAUT model on consumers of US and Korea and found that the impact of effort expectancy on behavior intention is greater in US sample than in Korean sample. But in the study of Lian and Yen (2014) effort expectancy emerged as an insignificant driver of online shopping. Further, in the studies of Baptista and Oliveira (2015), and Zhang et al. (2012) effort expectancy emerged insignificant variable.

Social influence Previous reports studies have considered the direct impact of social influence on behavioral intentions (Yaprakli et al. 2013; Al-Sobhi et al. 2011; Lu et al. 2005). As highlighted by Lu et al. (2005) social influence from social networks and sense of image play an important role in shaping individual's perceptions of ease of use and usefulness. Schepers and Wetzels (2007) also supported this finding and confirmed that social norms are important in influencing users' attitude towards technology use. On the contrary, some studies have reported that social influence has no significant impact on behaviour intention (Aoun et al. 2010; Chiu and Wang 2008). Venkatesh et al. (2003) suggested that social influence is more likely to be salient to older workers, particularly women during early stages of adoption (p. 469).

Facilitating conditions A number of previous reported studies have confirmed that facilitating conditions is a significant factor leading to adoption of technology (Lian and Yen 2014; Sareen and Jain 2014; Yaprakli et al. 2013). However, Rodriguez and Trujillo (2014) argued that there was no significant impact of facilitating conditions on use of technology. Also, Baptista and Oliveira (2015) and Baabdullah et al. (2014) confirmed that facilitating conditions is not a significant driver that influences M-banking adoption.

Hedonic motivation Hedonic motivation has been found to influence technology acceptance and an important determinant in previous reported studies (Brown and Venkatesh 2005). According to Menon and Kahn (2002) in initial browsing process, pleasurable online experiences influence consumers to explore novel products as well as websites and as a result they respond quickly to promotional incentives. Yang (2010) found in his empirical study that hedonic aspects are crucial drivers for the m-shopping services. However, Albugami and Bellaaj (2014) confirmed that hedonic motivation does not influences M-banking adoption.

Price value The cost and pricing structure may have the significant impact on consumers' technology use (Venkatesh et al. 2012, p. 161). Chong (2013) opined that undergraduate students are more sensitive to price as compared to other users. Further, the study of Albugami and Bellaaj (2014) reported no significant impact of price value on mobile payment in China. Toh et al. (2009) also identified that perceived cost negatively influences the intention to use m-commerce among Malaysians.

Habit According to Limayem et al. (2007) habit is the extent to which people perform behavior automatically. Lewis et al. (2013) found that habit positively influences intention to utilize classroom technology. Liao et al. (2006) also verified habit as a major predictor in b2c e-commerce.

UTAUT2 was established in 2012 and therefore there is a sparse research where UTAUT 2 has been utilized to study the online shopping behavior. Rodriguez and Trujillo (2014) while applying UTAUT2 for online air ticketing found insignificant effect of social influence and habit among Spanish consumers, while all other constructs were found to be significant. Harsono and Suryana (2014) found insignificant effect of price value, while the remaining constructs emerged significant. Baptista and Oliveira (2015) while studying M-banking adoption found only performance expectancy, hedonic motivation and habit as significant variables, where as Albugami and Bellaaj (2014) found performance expectancy, effort expectancy and habit as significant variables. Thus, there is no uniformity in the findings and there is a need to understand the importance of performance expectancy, effort expectancy, facilitating conditions, social influence, price value, hedonic motivation and habit in stimulating online purchase. Accordingly, the hypotheses proposed are:

- H2(a)** Performance expectancy, effort expectancy, social influence and facilitating conditions are the drivers of online shopping.
- H2(b)** Hedonic motivation, price value and habit are the drivers of online shopping.

Ease of ordering A careful assessment of the precedent studies as well as their measurement items have validated ease of ordering as a key dimension eliciting online purchase. A study by Tandon et al. (2016a) has found significant impact of ease of ordering on customer satisfaction for online shopping context. Qu et al. (2008) considered order tracking service and ease of return of product as important determinants that affect overall ratings of online retailers.

Cash-on-delivery (COD) mode of payment Cash-on-delivery (COD) mode of payment was introduced successfully by flipcart.com (an online retailer) in 2010. Consumers had to provide credit/debit card details for placing their orders online. The Indian consumers being concerned of paying through credit card/debit card adopted COD mode of payment to online retailers. COD solved the distrust and fear about delivery of faulty and wrong product to a great extent, because consumers get to inspect the product and be satisfied before paying. COD created trust among Indian consumers and condensed the apprehension of defective products to an extent because consumers had to pay only after receiving the product. Therefore, COD was welcomed by Indian consumers. A number of Indian studies (Thakur and Srivastava 2015; Tandon et al. 2016a) have suggested COD mode of payment as catalyst in online shopping as it is the preferred mode of payment. Hussain et al. (2007) empirically analyzed concerns on the subject of mode of payments for internet purchases in India, China and Pakistan and concluded that mainstream customers in these countries consider COD as the most convenient and time saving mode than credit card. A study by (Chiejina and Olamide 2014) on Nigerian consumers highlighted 'cash-on-delivery' mode of payment as a major trust builder between consumers and online retailers. COD is still very common in Austria with a share of 24 percent in total payments for online paying (Wolner-RoBlhuber et al. 2013). Cash-on-delivery though suggested and considered in most of the studies has not been empirically validated much as a construct and to fill up this gap COD mode

of payment has been included in present study. Based on above discussion, the following hypotheses are proposed:

H2(c) Ease of ordering and Cash-on-delivery mode of payment (COD) are the drivers of online shopping.

In technologically developing nations like India, it is meaningful to identify which factors of online shopping have a significant positive association with customer satisfaction. A customer's decision to be faithful towards a particular technology depends upon the sum of many small encounters and if contended they will adopt the technology. In the present study also performance expectancy, effort expectancy, facilitating conditions, social influence, price value, hedonic motivation, habit, security and privacy and ease of ordering are conceptualized as drivers of online shopping. Therefore, following hypothesis is proposed to understand the effect of drivers of online shopping and customer satisfaction:

H2(d) There is a significant positive association between the drivers and customer satisfaction.

2.2.4 Perceived risk

Perceived risk has been formally defined as “the expectation of losses associated with purchase and acts as an inhibitor to purchase behaviour” (Peter and Ryan 1976). According to Featherman and Pavlou (2003) “perceived risk is defined as the potential for loss in the pursuit of the desired outcome of using an e-service”. Different types of risks act as barriers in performing internet-based transactions and influence their behaviours regarding purchase of products. An understanding of perceived risk facilitates online retailers to comprehend online shopping through the eyes of consumers. Higher the risk perceived by the consumers, the more is the probability that they will not purchase the product online. Previous studies (Kim and Forsythe 2010; Gerrard and Cunningham 2003; Rampl et al. 2012; Zhou 2012) have analyzed different types of perceived shopping risks which act as barriers in performing online transactions and thus influence the choice of shopping channels by the customers.

Product performance risk Product performance risk is defined as the possibility of the results not being as they were designed to be and therefore, failing to deliver the desired benefits (Featherman and Pavlou 2003). It is concerned with performance of product up to the relative expectations. Inability to touch, feel and try product before purchase has been found one of the main reasons to avoid shopping online (Zhang et al. 2012; Zhou et al. 2010; Thakur and Srivastava 2015). Tandon et al. (2015) found touch and feel factor as a major deterrent in online shopping. Kim and Forsythe (2010) also observed strong hesitation among consumers to purchase online due to uncertainty regarding the product shown online.

Financial risk Financial risk is the potential monetary loss from the initial purchase of the product and its subsequent maintenance (Featherman and Pavlou 2003; Ueltschy et al. 2004). Forsythe and Shi (2003) confirmed a negative

relationship between perceived risk and online shopping behaviour, and further specified that perceived financial risk is the most consistent predictor of internet patronage behaviour.

Time risk Time risk indicates when users lose time by making poor purchasing decisions, with researching and making the purchase, and learning how to use it (Forsythe et al. 2006). In case of online shopping, time risk has been considered as perceived wasted time (McGuire et al. 2010) or disutility of waiting (Rajamma et al. 2009; Janakiraman et al. 2011). Heavy web pages with lots of graphics, slow page downloads, lengthy forms and unique formats for clearance lead to delay in actual waiting time which directs abandonment of shopping cart (Rajamma et al. 2009).

Social risk Social risk reflects the potential loss of status in a social group, as a result of adopting a product or service (Featherman and Pavlou 2003). Social risk includes issues whether online shopping will be socially acceptable among peers or not. For online shopping, social risk is very important because shopping is a social activity in India (Thakur and Srivastava 2015). Usually consumers try to obtain advice of their friends, peers and opinion leaders in order to reduce negative perception about online purchase. Zhang et al. (2012) in his study on Chinese consumers confirmed social risk as one of important dimension of perceived risk. Existing studies on technology acceptance (Venkatesh et al. 2003; Masoud 2013) also indicated influence of social groups and surroundings on individuals to perform certain activities. Therefore, influence of social group on acceptance of online shopping requires investigation (Thakur and Srivastava 2015).

Security risk Security risk in online shopping refers to the perceptions about security regarding the means of payment and the mechanism for storing security as one of the vital aspect in analyzing attitude towards online shopping (Thakur and Srivastava 2015; Tandon et al. 2015; Guo et al. 2012; Kolsaker and Payne 2002). In India, many buyers avoid online shopping as most of the online retailers ask them to provide personal information online. The possibility of misusing this information by e-retailers makes consumers restrain from online shopping. Kayworth and Whitten (2010) also revealed that consumers avoid websites that require personal data for registration leading people to provide incorrect and incomplete details.

Privacy risk Privacy risk is the probability of having personal information disclosed as a result of online transactions (Featherman and Pavlou 2003). Kayworth and Whitten (2010) also revealed that consumers avoid websites that require personal data for registration leading people to provide incorrect and incomplete details. But Forsythe and Shi (2003) claimed that although privacy concern was a frequently cited reason for not purchasing online, it does not significantly influence online purchase. Hence, the effect of perceived risk remains unclear.

To validate and test the above mentioned dimensions following hypotheses are proposed:

- H3(a)** Perceived risk is a multidimensional construct and is significantly defined by product performance risk, financial risk, time risk, security risk, privacy risk and social risk.

H3(b) There is a negative relationship between perceived risk and customer satisfaction.

3 Model formulation

The structural model (Fig. 1) contains latent variables or constructs (Website functionality, drivers and perceived risk) and paths (arrows). Paths show relationships between latent variables and dependent variable (customer satisfaction). The model exhibits two types of latent variables viz., endogenous and exogenous. Exogenous variables do not display paths or arrows pointing at them where as endogenous variables have paths pointing towards them (Hair et al. 1998). All the independent variables viz., security and privacy, customization, navigation, website design, performance expectancy, effort expectancy, facilitating conditions, social influence, ease of ordering, hedonic motivation, COD mode of payment, price value, habit, product performance risk, financial risk, time risk, security risk, privacy risk and social risk were exogenous variables where as website functionality, drivers of online shopping and perceived risk were endogenous variables.

SEM was preferred over other techniques as SEM allows to develop complex path models with direct and indirect effect. This allowed us to have a more accurate model depicting the causal mechanisms that we were interested in. This was precisely the reason why SEM with AMOS 20 was used.

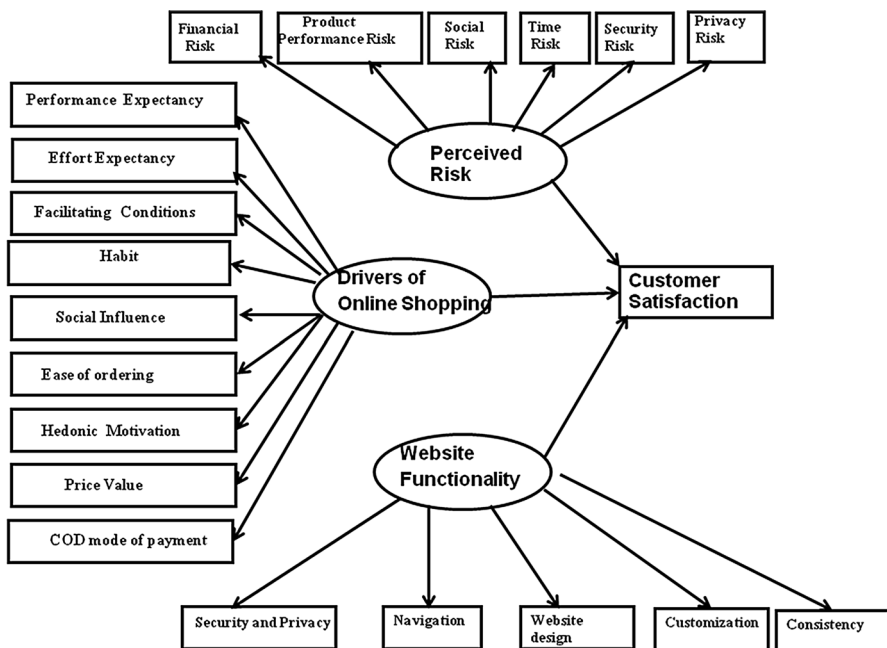


Fig. 1 Research model

4 Methodology

4.1 Survey instrument

The target population for this study was online shoppers in India. The study was conducted in North Indian states. The scale of website functionality items were adapted from the previous studies by Wolfinbarger and Gilly (2003) and Lee and Kozar (2012). Most of the scales of drivers of online shopping were adapted from Venkatesh et al. (2012). These items were further modified to fit online shopping context. The scale of cash-on-delivery mode of payment included five items not validated in previous reported studies. The items of 'ease of ordering' were adopted from the previous study of Tandon et al. (2016a) to make the scale suitable for developing economies. Items of perceived risk were adopted from studies like Featherman and Pavlou (2003) and Forsythe et al. (2006). New scale items like "slow internet speed wastes my time" were incorporated to make the scale applicable for emerging economies. All these items were measured using a five point Likert scale with the anchors varying from strongly agree to strongly disagree.

4.2 Data collection procedures

In order to get accurate responses and reduce ambiguity, a preliminary questionnaire was distributed to a pilot group of 50 people selected on the basis of convenience sampling. This pilot group consisted of academicians and management experts. The pilot group not only answered the questions but also suggested some changes in the wording and relevance of questions. Their suggestions were incorporated to refine the questionnaire. This procedure helped to improve the response clarity. The pilot group also suggested adding items related to 'ease of ordering' befitting emerging economies where online shopping is in nascent stage.

4.2.1 Sample selection

A total of 2000 service class persons, businessmen and youth including students covering Northern States of India were contacted by means personal visits and the drafted questionnaire was administered to them in the first round of data collection. The intention was to cover maximum segments of the society. The sample thus taken included respondents from urban and rural areas, of both the genders, graduates, post graduates, service class people as well as self employed persons to make it a judicious representative of the population. Several revisits were undertaken to enhance participation of these persons in the sample. From a total of 750 responses obtained, 500 usable and complete questionnaires were retained for analysis. In the second round of data collection 500 more questionnaire were distributed and a total of 275 responses were collected. Out of these 229 complete and usable forms were retained for further analysis. Sample size was calculated using 95 percent confidence level at 3.63 confidence interval. The number of online shoppers in India was estimated to be approximately 35 million in 2014 while it was

Table 2 Non response bias

Construct	Early respondents (500)		Late respondent (229)	
	Mean	SD	Mean	SD
Website functionality	3.653	0.515	3.607	0.412
Drivers of online shopping	4.135	0.298	4.164	0.295
Perceived risk	3.996	0.396	4.106	0.36
Customer satisfaction	3.95	0.575	4.01	0.55

8 million in 2012 and about, 40 percent of it was female online shoppers. In the representative sample taken in this study also females represent 41 percent of entire population and 57.4 percent respondents belonged to age group 18–30 improving the representativeness of the sample. This survey was carried out in two waves from March 2015 to January 2016 and August 2016 to October 2016. The sample distribution of responses taken in above mentioned two waves were compared for non-response bias. The mean differences in the key variables across early ($n = 500$) and late respondents ($n = 229$) were tested. The results indicated that both the groups did not differ indicating absence of non-response bias. The final sample of 729 was considered as representative of entire population (Table 2).

4.3 Demographic profile and characteristics of respondents

Tables 3 and 4 show the basic characteristics of the consumers surveyed. Out of the total 500 users of online shopping, 60 percent were males and 40 percent were females. Among the respondents, 57.4 percent were between 18 and 30 years of age followed by 24 percent in middle age group of 31–45 years of age and remaining 18.6 percent were above 45 years of age. A sizeable number of respondents 40.8 percent spend more than 16 h on internet in a week followed by 35.2 percent spending 8–16 h on internet which shows that majority of respondents are internet savvy. A substantial number of respondents (50.1 percent) indicated that they have been shopping online from 1 to 3 years followed by 34.3 percent who had been shopping from internet since 1 year. Majority of respondents (45.8 percent) had purchased 2–5 products from internet followed by 31.2 percent who had purchased more than five products from internet in last year. Regarding preferred mode of payment, majority of the respondents i.e., 66.4 percent aspire to pay through COD mode of payment followed by debit card (21%) and credit card (12.6%) was the least preferred mode of payment. This helped to assume the COD is the preferred mode of payment and thus was taken as driver in the study. From above analysis it appears that a considerable number of respondents were well educated i.e., postgraduates and graduates, of young age and enjoying average income.

Table 3 Frequency distribution for respondent's demographics

Demographic characteristics N = 500	Response	Valid percentage
<i>Gender</i>		
Male	437	60
Female	292	40
<i>Age</i>		
18–30	419	57.4
31–45	175	24
Above 45	135	18.6
<i>Education qualification</i>		
Undergraduate	104	14.3
Graduate	210	28.8
Post graduate	415	56.9
<i>Nature of consumer</i>		
Student	224	30.7
Self-employed	70	9.7
Service	435	59.6

Table 4 Frequency of internet usage and online shopping

<i>Number of hours spent on internet in a week (h)</i>		
<7	175	24.0
8–16	256	35.2
More than 16	298	40.8
<i>Number of years of online shopping (years)</i>		
<1	250	34.3
1–3	365	50.1
More than 3	114	15.6
<i>Hours spend on online shopping in a month (h)</i>		
<2	268	36.8
2–6	347	47.6
More than 6	114	15.6
<i>Number of products purchased online in a month</i>		
<2	167	23.0
2–5	334	45.8
More than 5	228	31.2
<i>Preferred mode of payment</i>		
Cash-on-delivery	485	66.4
Credit card	92	12.6
Debit card	152	21.0

5 Results

5.1 Data analysis

Structural Equation Modelling (SEM) using AMOS 20 was used to analyze the empirical data. The methodology for data analysis followed two steps. First step confirmed the factor structure of measurement items, the validity, reliability and model fit. The second step investigated the path relationship between the constructs and proposed hypotheses.

5.1.1 Reliability and validity

To assess reliability and validity of the proposed measurement model, confirmatory factor analysis (CFA) was carried out on items of customer satisfaction, website functionality, drivers of online shopping and perceived risk separately. NAV 4 of navigation, consistency and customization were removed due to low factor loadings and unclear factor structure. Similarly, three items of habit (HT1, HT2, HT3), PE5 (Performance expectancy), EE4 (Effort expectancy), EOD4 (Ease of ordering), FAC4 (Facilitating conditions), HM4 (Hedonic motivation), COD1 (Cash-on-delivery mode of payment), PR1 (Product performance risk), and SR4 (Social risk) of drivers and perceived risk were omitted due to low factor loadings. Tables 2 and 3 depict the results of CFA indicating that standardized loadings of all the variables included are significant. The instrument demonstrates evidence of convergent validity (average variance extracted >0.50 in all occasions), composite reliability (values >0.70 in all occasions) and discriminant validity (AVE estimate of each construct is larger than the squared correlations of this construct to any other construct (Fornell and Larcker 1981) (Tables 5, 6).

5.2 Structural model

In order to confirm the hypotheses, the second order model was estimated on all second order independent variables i.e., website functionality, drivers of online shopping, perceived risk and one dependent variable i.e., customer satisfaction. The results are summarized in Table 7. Website functionality is significantly explained by website design, navigation and security and privacy, partially supporting H1. All the independent variables namely performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation, price value, security and privacy, ease of ordering load on drivers of online shopping. Therefore, the results fully support H2(a): that performance expectancy, effort expectancy, social influence and facilitating conditions are drivers of online shopping and H2(c) which states that: COD and ease of ordering are drivers of online shopping. However, the results of the study partially support hypothesis H2(b): where hedonic motivation and price value emerged as significant variable and habit was removed due to poor factor loadings. The five risks of perceived risk i.e., Financial risk, Performance risk, Social risk, Privacy risk and Time risk were found significant but security risk

Table 5 Measurement model of website functionality, drivers to online shopping and perceived risk

Variables	Items	Standardised estimate	SE	CR	Composite reliability	AVE
<i>Security and privacy</i>	SP1*	0.75				
Mean 3.35	SP2	0.701	0.096	13.654	0.799	0.502
SD 0.85	SP3	0.796	0.103	14.134		
	SP4	0.567	0.081	11.868		
<i>Navigation</i>	NAV1*	0.729				
Mean 3.87	NAV2	0.723	0.12	9.318	0.766	0.522
SD 0.61	NAV3	0.714	0.084	10.995		
<i>Website design</i>	WEBD1*	0.69				
Mean 3.90	WEBD2	0.77	0.084	12.175	0.755	0.508
SD 0.71	WEBD3	0.675	0.134	9.888		
<i>Financial risk</i>	FR1*	0.67				
Mean 3.78	FR2	0.98	0.103	18.195	0.849	0.657
SD 0.95	FR3	0.75	0.069	19.039		
<i>Product performance risk</i>	PR1*	0.65				
Mean 3.82	PR2	0.73	0.192	12.034	0.801	0.577
SD 0.75	PR3	0.88	0.139	12.011		
<i>Time risk</i>	TR1*	0.63			0.846	0.59
Mean 4.81	TR2	0.59	0.121	13.618		
SD 0.36	TR3	0.838	0.076	18.308		
	TR4	0.951	0.077	18.650		
<i>Social risk</i>	SR2*	0.914			0.901	0.819
Mean 4.1	SR3	0.908	0.044	22.362		
SD 0.79						
<i>Security risk</i>	SECR1*	0.65			0.803	0.578
Mean 3.45	SECR2	0.82	0.104	15.021		
SD 0.95	SECR3	0.80	0.096	15.149		
<i>Privacy risk</i>	PRIV1*	0.938			0.937	0.783
Mean 4.07	PRIV2	0.954	0.019	51.717		
SD 0.83	PRIV3	0.91	0.022	44.180		
	PRIV4	0.732	0.029	26.316		
<i>Performance expectancy</i>	PE1*	0.917				
Mean 4.11	PE2	0.934	0.023	43.425	0.920	0.744
SD 0.79	PE3	0.91	0.025	40.562		
	PE4	0.66	0.034	20.166		
<i>Effort expectancy</i>	EE2*	0.786			0.750	0.502
Mean 4.47	EE3	0.703	0.062	15.103		
SD 0.46	EE4	0.627	0.07	13.776		
<i>Ease of ordering</i>	ORD2	0.7	0.074	12.673		
Mean 3.77	ORD3	0.93	0.098	14.757	0.861	0.676

Table 5 continued

Variables	Items	Standardised estimate	SE	CR	Composite reliability	AVE
SD 0.57	ORD4*	0.82				
<i>Facilitating conditions</i>	FC1	0.917				
Mean 4.12	FC2	0.924	0.024	41.120	0.930	0.815
SD 0.81	FC3*	0.866	0.027	37.323		
<i>Hedonic motivation</i>	HM1	0.91	0.034	29.038	0.881	0.714
Mean 3.80	HM2	0.908	0.044	22.362		
SD 0.92	HM3*	0.70				
<i>Perceived value</i>	PV1	0.681	0.05	15.569		
Mean 3.75	PV2	0.99	0.086	16.522	0.849	0.658
SD 0.77	PV3*	0.73				
<i>Social influence</i>	SI1	0.951	0.13	8.359		
Mean 4.38	SI2	0.870	0.131	12.585	0.925	0.805
SD 0.56	SI3*	0.869		8.972		
<i>Cash-on-delivery</i>	COD2*	0.65				
Mean 4.76	COD3	0.65	0.154	11.535		
SD 0.40	COD4	0.92	0.1	15.303	0.86	0.612
	COD5	0.87	0.078	16.231		
<i>Customer satisfaction</i>	CS1*	0.88				
Mean 4.06	CS2	0.92	0.033	29.900	0.929	0.727
SD 0.55	CS3	0.90	0.034	29.866		
	CS4	0.89	0.11	10.8		
	CS5	0.64	0.077	12.011		

was found insignificant. The results partially support the first hypothesis confirming that Perceived risk is a multidimensional construct and is significantly defined by performance risk, financial risk, time risk, privacy and social risk. All the fit indices indicated an acceptable fit (Table 7).

The next step involved was testing of the structural model and corresponding theoretical relationships. The structural model with standardized weights is shown in Fig. 2. Website functionality had a positive effect on customer satisfaction (standardized factor loading = 0.42, $R^2 = 0.17$, $p < 0.001$) thereby supporting H1(b). Similarly, drivers of online shopping (standardized factor loading = 0.740, $R^2 = 0.55$, $p < 0.01$) had a significant positive effect on customer satisfaction thereby supporting H2(d). Perceived risk has a significant negative impact on customer satisfaction (standardized factor loading = -0.689 , $R^2 = 0.48$, $p \leq 0.001$). The overall fit indices of the research model are shown to be acceptable (Table 8). This indicates that the hypothesized model is a reasonable presentation of the structures underlying the observed data (Table 8).

Table 6 Correlation matrix

	SP	NAV	WD	FA	PR	SR	SECR	PRIV	TR
SP	0.708								
NAV	0.243**	0.722							
WD	0.135**	0.276**	0.712						
FA	-0.023	0.099**	0.005	0.810					
PR	0.018	0.040	-0.045	0.021	0.759				
SR	-0.031	-0.031	-0.038	0.159**	0.146**	0.904			
SECR	0.047	-0.053	0.029	0.031	-0.018	0.062	0.760		
PRIV	0.000	-0.011	-0.077*	0.079*	0.063	0.473**	0.024	0.884	
TR	0.001	0.069	0.026	-0.018	0.169**	0.081*	-0.002	0.022	0.768
PEA	-0.004	-0.002	-0.020	0.0154**	0.083*	0.494**	0.025	0.463**	0.051
EEA	0.067	0.005	0.011	-0.044	0.043	0.142**	0.040	0.143**	0.168**
ORDA	0.069	-0.031	-0.021	-0.007	0.119**	0.038	0.038	0.092*	0.135**
FCA	-0.013	-0.016	-0.010	0.150**	0.133**	0.530**	0.020	0.482**	0.069
HMA	-0.051	0.080*	-0.006	0.596**	0.058	0.140**	-0.027	0.120**	-0.024
PVA	-0.040	0.050	0.047	0.300**	0.053	0.140**	0.000	0.213**	0.127**
SIA	0.025	0.045	-0.041	0.110**	0.050	0.181**	0.038	0.080*	0.037
COD	0.064	0.099**	0.015	0.027	0.113**	0.028	-0.015	0.105**	0.379**
CS	-0.054	-0.012	-0.112**	0.040	-0.056	-0.028	-0.086*	-0.054	-0.057
PEA		EEA	ORDA	FCA	HMA	PVA	SIA	COD	CS
NAV									
WD									
FA									
PR									

Table 6 continued

	PEA	EEA	ORDA	FCA	HMA	PVA	SIA	COD	CS
SR									
SECR									
PRIV									
TR									
PEA	<i>0.862</i>								
EEA	<i>0.155^{**}</i>	<i>0.708</i>							
ORDA	<i>0.101^{**}</i>	<i>0.291^{**}</i>	<i>0.822</i>						
FCA	<i>0.327^{**}</i>	<i>0.111^{**}</i>	<i>0.086[*]</i>	<i>0.902</i>					
HMA	<i>0.107^{**}</i>	<i>-0.012</i>	<i>-0.038</i>	<i>0.156^{**}</i>	<i>0.844</i>				
PVA	<i>0.247^{**}</i>	<i>0.272^{**}</i>	<i>0.133^{**}</i>	<i>0.201^{**}</i>	<i>0.335^{**}</i>	<i>0.810</i>			
SIA	<i>0.085[*]</i>	<i>0.059</i>	<i>0.015</i>	<i>0.066</i>	<i>0.159^{**}</i>	<i>0.048</i>	<i>0.897</i>		
COD	<i>0.082[*]</i>	<i>0.159^{**}</i>	<i>0.169^{**}</i>	<i>0.081[*]</i>	<i>-0.041</i>	<i>0.181^{**}</i>	<i>0.048</i>	<i>0.782</i>	
CS	<i>-0.004</i>	<i>-0.134^{**}</i>	<i>-0.039</i>	<i>.018</i>	<i>-0.066</i>	<i>-0.102^{**}</i>	<i>0.009</i>	<i>-0.029</i>	<i>0.850</i>

Items in italics indicated square root of AVE

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Table 7 Structural model of website functionality, drivers to online shopping and perceived risk

	Estimate	SE	CR	<i>p</i>
Website design ← WF	0.473			***
Navigation ← WF	0.59	0.135	6.512	***
Security and privacy ← WF	0.46	0.124	6.465	***
Performance expectancy ← DRIVERS	0.74	0.208	6.513	***
Effort expectancy ← DRIVERS	0.288			
Ease of ordering ← DRIVERS	0.53	0.281	4.38	***
Facilitating conditions ← DRIVERS	0.163	0.95	2.428	0.015
Hedonic motivation ← DRIVERS	0.85	3.631	2.954	0.003
Price value ← DRIVERS	0.126	0.500	2.165	0.030
Social influence ← DRIVERS	0.186	0.534	2.520	0.002
COD ← DRIVERS	0.836	3.421	2.954	0.003
Performance risk ← PR	0.649			
Financial risk ← PR	0.180	2.437	2.408	***
Social risk ← PR	0.971	1.686	2.913	0.004
Security risk ← PR	0.051	1.303	1.072	0.284
Privacy risk ← PR	0.716	7.193	2.26	0.024
Time risk ← PR	0.487	0.623	4.169	***

Goodness of fit $CMIN/df = 3.56$, $GFI = 0.934$, $AGFI = 0.915$, $NFI = 0.9019$, $TLI = 0.898$, $CFI = 0.879$, $RMSEA = 0.065$

6 Discussion and conclusion

In this section, the results of the study are discussed. This study contributed to an overall understanding of factors which lead to customer satisfaction in Indian online shopping context. The study also analyzed perceived risk and its relationship with customer satisfaction. In spite of substantially reported research in the construct of drivers of online shopping, an aggregate model has been lacking wherein the website functionality and the drivers have been integrated with perceived risk in context of Indian and developing economies. In order to fill this gap, the present study has empirically examined the constructs of website functionality, drivers of online shopping and perceived risk and their impact on customer satisfaction.

6.1 Website functionality

The research model validated and identified those features of website functionality which lead to customer satisfaction. The findings of the study indicated that security and privacy, navigation characteristics and website design are significantly associated with website functionality. The results of the studies carried out by Tandon et al. (2016a), Gehrt et al. (2012) and Guo et al. (2012) lend support to the findings of the present study indicating that website design and security and privacy have significant positive relationship with customer satisfaction. This indicates that security and privacy protection is an important driver influencing customer

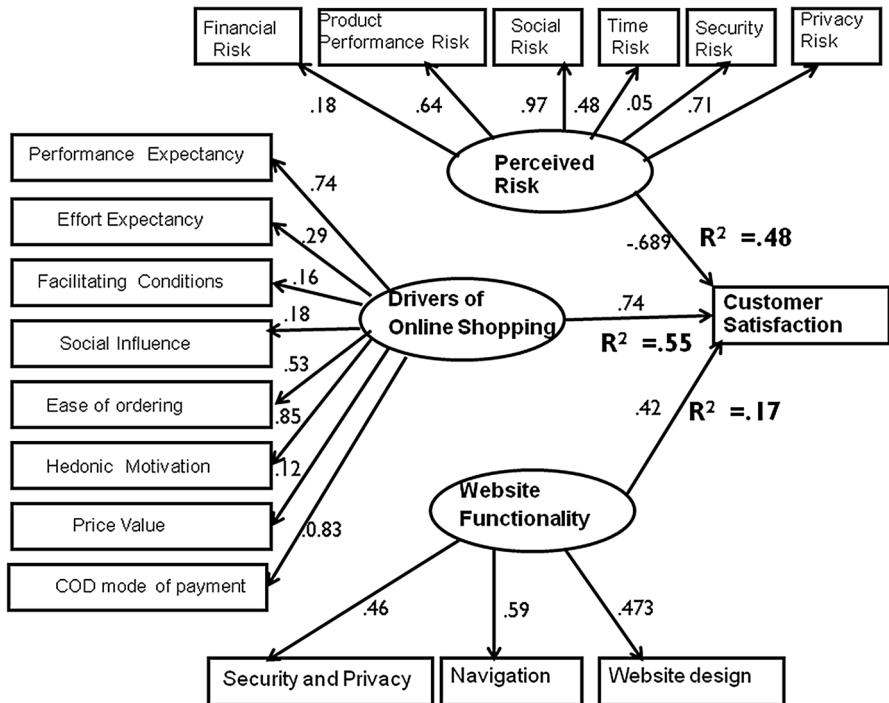


Fig. 2 Path relationships

Table 8 Path analysis

	Estimate	R-square	<i>p</i>	Result
Website functionality ← CS	0.42	0.17	***	Support
Drivers ← CS	0.74	0.55	0.011	Support
Perceived risk ← CS	−0.689	0.48	***	Support

Goodness of fit $CMIN/df = 4.26$, $GFI = 0.951$, $AGFI = 0.945$, $NFI = 0.928$, $RFI = 0.921$, $RMSEA = 0.072$

satisfaction. While consumers may be benefitted from online purchases but concerns about privacy and security are challenging issues demanding attention of online retailers. Navigation too emerged as an important factor for online transactions thereby leading to increased usability. This is supported by previous reported studies (Calisir et al. 2010; Lee and Kozar 2012). This indicates that the search attempts through a smooth navigation and coherent structuring of information leads to an increase in satisfaction. Accurate representations of the product and easy to understand content and existence of detailed security indicators may lead to enhanced satisfaction.

6.2 Drivers of online shopping

As UTAUT2 is acknowledged as a model to envisage information technology' adoption and therefore, has been applied in present research as well. This research adopts performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation, price value and habit from UTAUT2 as drivers of online retailing. These drivers have been supplemented with two new indicators namely ease of ordering and COD to analyze their relationship with customer satisfaction. Items of construct Habit (HAB1, HAB2 and HAB3) were removed due to poor factor loadings. The performance expectancy and effort expectancy emerged came out as significant drivers and it is consistent with findings of earlier research (Lian and Yen 2014; Sareen and Jain 2014; Yaprakli et al. 2013). The social influence relationship too emerged significant and was consistent with findings of previous studies of Yaprakli et al. (2013), Foon and Fah (2011) and Venkatesh et al. (2012) where as it was not supported by findings of the study of Baptista and Oliveira (2015). This reflects that citizens of developing countries like India give due attention to the advice from their colleagues, friends and peers whom they eye as opinion leaders. Facilitating conditions and price value also emerged significant. This has been supported by Zhou et al. (2010), yet there are many others namely Im et al. (2011) and Sareen and Jain (2014) who contradict it. It was also hypothesized that these drivers to online retailing are positively linked with customer satisfaction. The study expanded the model by adding two more drivers of online shopping namely COD mode of payment and ease of ordering. The salient contribution of the research is empirical substantiation of COD mode of payment as a construct with UTAUT2. COD mode of payment was found to be significantly related with customer satisfaction. This is consistent with few reported studies (Hussain et al. 2007; Chiejina and Olamide 2014; Tandon et al. 2016b). It specifies that COD mode of payment is duly important in increasing confidence in online retailing. In view of the fact that, COD is a favoured mode of payment in emerging countries like India therefore, an attempt is required from online retailers to widen its periphery to maximum pincodes in the country. Path analysis confirmed that there exists a significant and positive relationship between drivers of online retailing and customer satisfaction where drivers of online shopping have strong influence ($R^2 = 0.55$, $p = 0.011$) as compared to website functionality ($R^2 = 0.17$, $p = 0.000$).

6.3 Perceived risk

Moving a step ahead, this study identified the facets of perceived risk as barriers to online retailing. The impact of perceived risk was also analyzed on customer satisfaction. Performance risk, financial risk, social risk, security risk, privacy risk and time risk emerged as main dimensions of perceived risk. The results of the study confirmed that financial risk that includes fear of getting overcharged, apprehension of losing money and revealing of debit card/credit card information has negative impact on customer satisfaction. It is compatible with the findings of Masoud (2013), where financial risk emerged as a major deterrent to online shopping.

Product performance risk also emerged as a significant risk factor. As it is not practicable to check the product quality online because customers cannot touch and judge the quality and thus evade shopping online. Product performance factorl too emerged as a decisive barrier as indicated in previous studies like Masoud (2013), Kim and Forsythe (2010) and Tandon et al. (2015). Social risk and privacy risk also emerged as significant barriers. Findings of Featherman and Pavlou (2003) and Thakur and Srivastava (2015) lend support to it. Lack of individual contact with sales executives, practically no interaction and social contact with other persons as well as loss of privacy of person discourage a person to shop online. Notably, security risk had no significant relation with perceived risk possibly due to COD mode of payment which has significantly reduced the apprehensions among Indians about possible thefts related through credit/debit card details. This issue has been given due attention by online retailers by posting necessary guidelines about security and privacy policy on their websites. Path analysis confirmed significant negative relationship of perceived risks with customer satisfaction.

7 Implications of the study

The present study has significance for academic community in addition to online retailers. The rationale of this research was to develop a detailed and an inclusive model covering online retailing in India which could increase their performance. The study incorporated website functionality, drivers of online shopping and dimensions of perceived risk which checked shopping online. The study validated predictors of UTAUT 2 in online retailing perspective and modified the scale by including COD mode of payment and ease of ordering. The model developed and presented exhibits an exhaustive reflection of drivers, perceived risk and website functionality which help to improve the performance of online retailers in India.

7.1 Theoretical implications

The research findings have deepened the knowledge in context of online retailing in India. The model emerged from this research can be studied further by other developing countries to have an extensive consideration of the factors inducing online purchase.

The main implication of this study lies in integrating various features of website functionality, drivers of online shopping and perceived risk, which are pre-requisite for adoption of any technology.

The emergence of website functionality as a significant factor indicates that customers prefer to acquire product information through graphical components, hyperlinks and layout of websites. Customers purchase the product online only if website of online retailer is simple to operate upon. With appealing layout and striking graphics, users can locate information regarding the product which in turn helps them save their time. This probably may help to diminish perceived risk. Therefore, a pertinent balance of navigation, security and privacy and website design must be studied for each country in order to augment website functionality.

An added key theoretical contribution of the present research is validating predictors' namely COD and ease of ordering as a construct to understand their relation with customer satisfaction. Ease of ordering encompasses the issues related with placing an ordering, cancelling an order, tracking and modifying the same once placed. The present study attempted to empirically examine the relation between ease of ordering and customer satisfaction. At present, there is sparse research reported on methods of payment. Through this research, the role of COD mode of payment also stands established as a trust-builder between customers and e-retailers in Indian online retailing scenario. Particularly, the impact of COD mode of payment is more significant in technologically deficient countries where online retailing got started later than most of the western countries. Therefore, COD mode of payment is an important marketing observable fact for inculcating positive attitude and acts as a significant factor leading to customer satisfaction. This study highlights that COD mode of payment needs to be analyzed intensely and included in online retailing adoption models across diverse socio-economic cultural scenarios.

Perceived risk emerged as second order multidimensional construct in this study. Social risk, time risk and privacy risk emerged significantly noticeable indicators for perceived risk whereas financial risk as well as product performance also emerged significant but were with comparatively lower impact. Security risk was found insignificant in the present research. The implication for this is that due to increase in confidence people in India are adopting online shopping and with subsequent purchases the issue of security gets diluted. The study confirmed negative effect of perceived risk on customer satisfaction. It calls for due emphasis to be given to lower perceived risk for enhancing shopping online.

7.2 Practical implications

Understanding the constructs in the developed research model is requires due consideration from online retailers in India as well as those in emerging economies so that they may get new customers in their folds and retaining the existing ones also.

Online retailers in India need to generate awareness among customers about the usefulness, convenience and other benefits of shopping online. They may step-up channel enjoyment, excitement and entertainment by providing quality products to increase customer satisfaction. The emergence of website functionality as an important pointer leading to customer satisfaction emphasizes the dire need to make website more user friendly having alluring and vibrant web pages which are hassle-free to upload. Satisfied and delighted customer will be retained for longer time and hence this will improves efficiency and performance. Thus, it will be win-win situation for both i.e. for online retailers and for customers too.

Online retailing turns out to be easy under the influence of drivers namely performance expectancy, effort expectancy, social influence, hedonic motivation and facilitating conditions. As revealed from this study, customers are apprehensive about the responses from their community members. Online retailers ought to select frequent shoppers who may be taken as their opinion leaders and may act as role

models in their marketing campaigns. Online retailers are required to lay emphasis on the warranty, guarantee besides prompt and effective after sales service which may be added to increase confidence and boost online shopping. Price discounts on festive seasons may attract customers thereby promoting online retailing. Further, online chat forums and virtual tour through the website may reduce the trepidation of consumers and retain them.

The study has substantiated the negative influence of perceived risk on customer satisfaction. Online retailers need to confer social support to customers so that they can lessen their perceived risk thereby building confidence towards online shopping. Focusing on social, time, privacy, product performance and financial risk may help in projecting online retailing as less risky venture. Reliance on COD mode of payment may be relied upon to overcome this fear. Significant emergence of time risk indicates that unlike in technically developed countries, internet connectivity continues to be a matter of concern for developing economies. This calls for an added endeavor from ISPs who need to provide internet facility at lower cost. Further, online customers need to be better acquainted with the replacement policy and query handling software. Proficient customer support executives well versed with regional languages and dialects may be engaged for providing a familiar touch.

A noteworthy implication of the study is validating COD mode of payment with UTAUT2. Majority of Indian population does not possess Credit card and those who have, use the same to withdraw cash from ATM. Therefore COD mode of payment may be used for enhancing online shopping. Due to recent internet penetration, people in small towns have also started shopping online therefore, focusing on COD may offer online retailers a competitive advantage. Besides, all the overhead costs covering packing, transportation, shipping and courier costs must be exhibited at the time of placing an order. For developing trust in online shopping and inculcating it as a habit, an assured way of timely delivery of product may be followed. The online retailers must focus on 3PL (Third party Logistics) or by having their own transport system. Developing structural, technological and legal framework will improve security and assist smooth, safe and secure online transactions thus convincing the customers for repurchase.

8 Limitations and future research

There are several limitations of this study requiring further examination and additional research. The first limitation is related with generalizability of the findings. Because the study was conducted in India, the data collected represents only India. Thus, the findings may not be applicable to developing neighboring countries. Duplicating this research in other Asian countries could test the exactness of the findings. The study has not empirically analyzed the impact of cultural perspective on online shopping adoption. Future research may include cultural values of nations as these values have significant influence in decision making. Second, COD mode of payment and ease of ordering need to be analyzed further in different countries with diverse cultures and future research may modify the model

by identifying other significant drivers that may increase the pertinent use of UTAUT2 to a wide range of technologies. Finally, due to time constraints the study considered only financial risk, product performance risk, social risk, time risk, privacy risk and security risk. However, other variables like quality risk, delivery risk, privacy risk, after-sales risk, psychological risk may be examined in future researches. Besides, the study leaves significant space for researchers to consider the individual characteristics of the respondents such as age, gender and experience on perceived risk dimensions as well as drivers to online shopping.

Appendix 1: Measurement items and their sources

Security and privacy (Wolfenbarger and Gilly 2003)	
The websites have adequate security measures	SP1
I feel safe while using my credit card/debit card on the websites	SP2
I trust that the websites will not give my personal details to other websites without my permission	SP3
Online retailers offer user memberships for surfing on the password protected web pages within the website	SP4
Website design (Wolfenbarger and Gilly 2003)	
The layout of online retailing websites facilitates shopping	WD1
The attractive colour scheme of online retailing websites facilitates shopping	WD2
The graphics displayed in websites provide ease for ordering product	WD3
Navigation (Lee and Kozar 2012)	
The web pages which I am looking for can be reached through multiple tabs/windows	NAV1
The search function at the websites is helpful	NAV2
The websites allow easy return to the previous display pages	NAV3
<i>Pictures of products are downloaded quickly</i>	NAV4
Customization (Lee and Kozar 2012; Cho and Lau 2014)	
<i>I can customize my product before ordering</i>	CUSTOM1
<i>Customization function of online retailers is helpful</i>	CUSTOM2
<i>Online retailing websites correspond to customer's needs</i>	CUSTOM3
Performance expectancy (Venkatesh et al. 2003, 2012)	
Online shopping provide wide assortment of products useful in my daily life	PE1
Online shopping helps me to find product information within the shortest time frame	PE2
While shopping on internet I can find some products that are not easily available in physical stores	PE3
Online shopping enables me to accomplish shopping more quickly than traditional stores	PE4
<i>Shopping online takes less time from search of products to transaction</i>	PE5
Effort expectancy (Venkatesh et al. 2003, 2012)	
It was easy for me to learn internet shopping	
The language used by online retailers is easy to understand	EE1
Internet shopping websites are easy to use	EE2
<i>Information provided by online retailers help me to purchase product</i>	EE3

Ease of ordering (Tandon et al. 2016a)	
It is easy to track orders placed online	EASEORD1
It is easy to modify orders placed online	EASEORD2
It is easy to cancel orders placed online	EASEORD3
<i>It is easy to replace orders placed online</i>	EASEORD4
Facilitating conditions (Venkatesh et al. 2003, 2012)	
I have resources necessary to use online shopping	FCA1
I have knowledge necessary to use online shopping	FCA2
Online shopping is compatible with other technologies I use	FCA3
<i>I can get help from others when I have difficulties using online shopping</i>	FCA4
Hedonic motivation (Venkatesh et al. 2012)	
Shopping online is an exciting experience for me	HM1
Shopping online is fun for me	HM2
I feel shopping online is enjoyable	HM3
<i>Shopping online is very entertaining</i>	HM4
Price value (Venkatesh et al. 2012)	
Online products are reasonably priced	
Online shopping provides me good value for money	PVA1
Online discounts and promotions offered are often attractive which provide me value for money	PVA2
Habit (dropped) (Venkatesh et al. 2012)	
	PVA3
<i>The use of online shopping has become a habit for me</i>	HT1
<i>I am addicted to shopping online</i>	HT2
<i>Online shopping has become natural to me</i>	HT3
Social influence (Venkatesh et al. 2012)	
People who are important to me think that I should adopt online shopping	SI1
People who influence my behavior think that I should adopt online shopping	SI2
People whose opinions that I value prefer that I use online shopping	SI3
COD mode of payment (New scale items)	
<i>I think COD is a reliable mode to payment</i>	COD1
I prefer to buy through cash on delivery (COD) mode of payment	COD2
I plan to pay through COD mode of payment	COD3
COD mode of payment facilitates easy return of defected products	COD4
COD give me confidence for future repurchase of products	COD5
Financial risk (Masoud 2013, Almousa 2011)	
While online shopping the debit/credit card information may be stolen by others	FR1
I might get overcharged if I shop online	FR2
I can't trust the online company	FR3
Product performance risk (Forsythe et al. 2006)	
<i>Fear of faulty products</i>	PR1
I am not assured about the size of the product	PR2
I can't judge the performance of product without touching	PR3
Inability to try products before purchase makes me suspicious of its performance	PR4
Time risk (Zhang et al. 2012)	

Buying a product online can involve a waste of time	TR1
Slow internet speed wastes my time (New scale item)	TR2
Tiresome browsing through internet leads to wastage in time	TR3
Inapt query handling leads to wastage of time	TR4
Social risk (Zhang et al. 2012)	
Product purchased may result in disapproval by family	SR1
Online shopping may affect the image of people around me	SR2
Online products may not be recognized by relatives or friends	SR3
<i>Online shopping may make others reduce my evaluation</i>	SR4
Security risk (Kolsaker and Payne 2002)	
Online shopping websites are not secure	SECR1
Posting my personal details online inhibits online shopping	SECR2
Online shopping websites donot have adequate security measures	SECR3
Privacy risk (Zhang et al. 2012)	
Online shopping e-mail address may be abused by others	PRIV1
My phone number may be abused by others	PRIV2
My personal information may be disclosed to others	PRIV3
My bank card may be stolen by others	PRIV4

Items in italics are deleted items

Appendix 2: Hofstede’s cultural values

Hofstede’s cultural values	Definition	India	USA
Power distance	The extent to which less powerful members of a group or society expect that powers are unequally distributed)	77	40
Uncertainty avoidance	The extent to which the members of group or society feel threatened by unknown situations	40	46
Individualism versus collectivism	The extent to which individuals are integrated into groups	48	91
Masculinity versus femininity	The extent to which gender roles are assigned in a culture	52	62
Long-term versus short-term orientation	A society’s preference to be more forward looking or future oriented	61	26
Indulgence versus restraint	Society that allows relatively free gratification of basic and natural human desires related to enjoying life and having fun indicated indulgence	26	68

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