CHAPTER 5

REVIEW OF LITERATURE

Literature review comprises two sections. Section 1 consists of various studies related to demographics, webographics and factors affecting online consumer behavior with respect to online retail and e-commerce. Section 2 consists of studies related to service quality with context to online retail.

Section 1

5.1 Studies related to online buying behavior

5.1.1 Studies related to online buying behavior and demographics

Sin and Tse (2002) proposed a model of Internet shopping behavior and postulated that consumer Internet shopping behavior is affected by consumers’ demographic, psychographic, attitudinal and experiential factors. They found that Internet buyers tend to be male, well educated, with a higher income and mainly in the age bracket between 21 and 30.

Bellman et al. (1999) concluded that demographics have slight influence i.e. a person with higher income, education, and age is more likely to buy online or more online transactions. Similarly, Chen et al. (2002) observed that most of the early adopters of online shopping are more likely to be well educated with higher household incomes.

Case et al. (2001) conducted online survey on 425 undergraduate and MBA students and found that Internet knowledge, income, and education level are powerful predictors of Internet purchases among university students. From CRM perspective they suggested that e-tailers are likely to achieve the greatest payoff from building relationships with upper division and graduate students with above average levels of disposable income and Internet knowledge.

Kim and Lim (2001) surveyed on Korean consumers with respect to perceived importance of and satisfaction with Internet shopping. Their sample was highly skewed toward the highly educated. Segment of individuals with a higher level of education often shows strong purchase intention due to their higher income.
Li et al. (1999) proposed and tested a model of consumer online buying behavior which posits that consumer online buying behavior is affected by demographics, channel knowledge, perceived channel utilities, and shopping orientations. Findings indicated that education, convenience orientation, experience orientation, channel knowledge, perceived distribution utility, and perceived accessibility are robust predictors of online buying status (frequent online buyer, occasional online buyer, or non-online buyer) of Internet users.

Table 5.1 Studies related to online buying behavior and demographics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Related studies</th>
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<tbody>
<tr>
<td><strong>Demographics</strong></td>
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<tr>
<td>Education</td>
<td>(Basahih, 2013; Bellman et al., 1999; Case et al., 2001; Chen et al., 2002; Kim and Lim, 2001; Li et al., 1999; Pereira, 1998; Sin and Tse, 2002; Vrechopoulos et al., 2001)</td>
</tr>
<tr>
<td>Age</td>
<td>(Bellman et al., 1999; Bhatnagar et al., 2000; Case et al., 2001; Raijas and Tuunainen, 2001; Sin and Tse, 2002; Vrechopoulos et al., 2001; White and Manning, 1998)</td>
</tr>
<tr>
<td>Gender</td>
<td>(Bae and Lee, 2011; Bhatnagar et al., 2000; Cha, 2011; Davis et al., 2009, 2014, n.d.; Garbarino and Strahilevitz, 2004; Hasan, 2010; Hsu, 2013; Park et al., 2009; Richard et al., 2010; Sin and Tse, 2002; Swilley and Goldsmith, 2013; Zhang and Prybutok, 2003)</td>
</tr>
<tr>
<td>Family income</td>
<td>(Bellman et al., 1999; Case et al., 2001; Chen et al., 2002; Kim et al., 2000; Kim and Lim, 2001; Koivumäki, 2001; Li et al., 1999; Lohse et al., 2000; Raijas and Tuunainen, 2001; Ramaswami and Strader, 2000; Sin and Tse, 2002; Vrechopoulos et al., 2001)</td>
</tr>
<tr>
<td>Occupation</td>
<td>(Kim and Lim, 2001; Raijas and Tuunainen, 2001; Vrechopoulos et al., 2001)</td>
</tr>
<tr>
<td>Marital status</td>
<td>(Bhatnagar et al., 2000; Kim and Lim, 2001; Vrechopoulos et al., 2001)</td>
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Pereira (1998) noticed that moderate education will serve to reinforce status quo and increase resistance to change whereas an individual with advance education will challenge existing norms and show less resistance to change. Therefore, more education will lead to greater acceptance of shopping at the electronic malls. Similarly, a person who is more open-minded, venturesome, cosmopolitan in outlook,
socially mobile, self-confident, mature the consumer, he will show greater tendency to shop at electronic malls.

Bhatnagar et al. (2000) ascertained the influence of demographics on risk aversion and found those older consumers were more open to purchasing on the Internet, whereas the effect of gender was mixed. Male have increased probability of purchase in the product categories like hardware software, and electronics etc, where men have greater experience. But in categories such as food, beverages and clothing the effect of being male was significantly negative. Marital status had no significant effect, hardware category where marital status did have a significant effect. They suggested segmentation on the basis of gender, marital status, and age. However, such segmentation needs to be tailored for each product category.

Raijas and Tuunainen (2001) observed that typical customers patronizing electronic grocery store (EGS) in Finland were wealthy dual-career families with small children, who live around large cities and size of the household is an important factor.

White and Manning (1998) reported relationship between consumer attitudes toward a commercial WWW site and likelihood of purchase as well as demographic factors which are related to online purchasing behavior of food and drink products.

Davis et al. (2009) found significant relationship between online retail shopping attitudes, online gender and purchase intention for males. Females prefer offline shopping whereas online shopping is oriented towards males.

Hasan (2010) discovered significant gender differences in three attitudinal components (cognitive, affective and behavioral). He found that largest gender difference is in the cognitive attitude, indicating that females value the utility of online shopping less than their male counterparts.

Garbarino and Strahilevitz (2004) established that women perceive a higher level of risk in online purchasing than men. However, a site recommendation by a friend can reduce perceived risk and increase willingness to buy online among women than men.

Richard et al. (2010) probed the influence of internet experience and web atmospherics on consumer online behavior and deciphered that men and women differ in web navigation behavior, with men engaging in less exploratory behavior and developing less website involvement than women. They also observed that
entertainment, challenge, and effectiveness of information content were the key drivers of website attitudes across the two sexes.

Results of study conducted by Park et al. (2009) show that, compared to males, females search more product information including customer reviews and prefer using an assistant agent more while shopping online. Zhang and Prybutok (2003) applied Technology Acceptance Model (TAM) to address consumers' online purchasing intentions to study the effect of gender as a moderating variable on purchase intention.

The results of Bae and Lee (2011) show that the effect of online consumer reviews on purchase intention is stronger for females than males. Cha (2011) also found social norm and gender are the two significant factors that affect intention to purchase virtual items.

Hsu (2013) observed that female college students scored significantly higher on aesthetic and social clothing values than male college students, when they purchased casual clothing by Internet shopping in Taiwan. Few research studies discovered that online gender for females has a strong mediating effect across all product categories on online utilitarian shopping motivation and purchase intentions. For males it is their offline gender that has a strong mediating effect (Davis et al., n.d.). However some researchers concluded that there is no online-gender effect on hedonic shopping motivation and purchase intentions (Davis et al., 2014).

Swilley and Goldsmith (2013) found that there is no difference between the sexes in terms of shopping online for the holidays. Both genders were likely to shop online on Cyber Monday. However, women were almost twice more likely to shop at the mall on Black Friday than men.

5.1.2 Studies related to online buying behavior and Webographics

Liao and Cheung (2001) observed that level of education and training in computer applications and IT significantly affect the initial willingness of Singaporeans to e-shop over the Internet. They measured individual's level of Internet usage by measuring frequency of access and the duration of each access.

Webster and Martocchio (1992) observed that microcomputer playfulness is inversely related with computer anxiety but it’s positively related with computer attitudes, computer competence, and computer efficacy, and with outcomes such as
involvement, positive mood, satisfaction, and learning.

Chen et al. (2002) noticed that "wired lifestyle" and time starvation greatly influence online shopping and it can be characterized by a history of using the Internet, sufficient access to the Internet and positive attitude towards Internet's potential to improve personal productivity.

Soopramanien and Robertson (2007) studied general acceptance of the Internet by consumers and its affect on adoption and use of online shopping. They asked their respondents to rate their utility derived from using the Internet and computers through six variables i.e. computer ease of use, computer usefulness, whether respondents find computers enjoyable to use, Internet ease of use, Internet usefulness and whether respondents find the Internet enjoyable to use. They found that the utility derived from using the Internet encompasses the utility derived from using computers along three main dimensions: ease of use, usefulness and enjoyment of use as implied under the technology acceptance framework.

**Table 5.2** Studies related to online buying behavior and Webographics

<table>
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<th>Variables</th>
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<tr>
<td>Webographics</td>
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<tr>
<td>Computer experience</td>
<td>(Chen et al., 2002; Liao and Cheung, 2001; Soopramanien and Robertson, 2007; Webster and Martocchio, 1992)</td>
</tr>
<tr>
<td>Internet experience</td>
<td>(Bhatnagar et al., 2000; Case et al., 2001; Chen et al., 2002; Lohse et al., 2000; Miyazaki and Fernandez, 2001; Novak et al., 2000; Soopramanien and Robertson, 2007)</td>
</tr>
<tr>
<td>Web skill</td>
<td>(Freeman, 2009; Koufaris, 2002; Li et al., 1999; Novak et al., 2000)</td>
</tr>
<tr>
<td>Access place</td>
<td>(Bhatnagar et al., 2000; Karayanni, 2003)</td>
</tr>
<tr>
<td>Access device</td>
<td>(Basahih, 2013; Doherty and Ellis-Chadwick, 2010, 2006; Ernst &amp; Young, 2012; Jai et al., 2013; Lu et al., 2003; Yang, 2012)</td>
</tr>
<tr>
<td>Usage level (Time spent)</td>
<td>(Chiou and Ting, 2011; Garbarino and Strahilevitz, 2004; Liao and Cheung, 2001; Lohse et al., 2000; Novak et al., 2000; Sin and Tse, 2002)</td>
</tr>
<tr>
<td>Connection speed</td>
<td>(Basahih, 2013; Kim and Lim, 2001; Novak et al., 2000)</td>
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Novak et al. (2000) found that online customer experience has a positive correlation with fun, recreational and experiential uses of the Web, expected use of the Web in the future, and the amount of time consumers spend online, but negative association with use of Web for work-related activities. They also found that online search for product information and purchase is strongly related to skill and control. Consumers considering Web to be important were more likely to focus their attention on interaction and were more likely to be skilled at using Web.

Sin and Tse (2002) observed that Internet buyers have a high Internet usage rates and they are time conscious, self-confident and have a more positive attitude toward Internet shopping than non-buyers.

Lohse et al. (2000) found that as compared to Internet buyers, Internet non-buyers and dropouts have lower incomes, lesser internet experience and have spent less time per week on the Internet.

Certain researchers observed that when slow speeds are not well managed, Web waiting time negatively affects consumer evaluation of website content (Dellaert and Kahn, 1999; Novak et al., 2000).

Chiou and Ting (2011) noticed less time spent on product’s information page and higher tendency for online window shopping by experiential shoppers than goal-oriented shoppers. Their results showed that in case of hedonic products consumers browse more products, spend less time per product, and make more frequent use of the price comparison feature, than utilitarian products.

Doherty and Ellis-Chadwick (2010) mentioned that under growing pressure from consumers, retailers have to allow their services to be accessed flexibly from a growing array of mobile devices, so that consumer can shop on the move. They also brought up the importance of integration of newer mobile technologies in future i.e. how mobile devices, such as 3G mobile phones or PDAs, and wireless networks will be integrated into the retailers’ existing internet infrastructures and online practices. Similarly, Basahih (2013) remarked that people’s education, availability of mobile devices, openness to the use of technology, and Internet speed support are important factors that affect online retailing adoption.

Yang (2012) discovered partially significant moderating effect of the consumer
technology innovativeness characteristic on the relationship between perceived behavioral control and intention to use mobile shopping. Consumers with a higher technology innovativeness characteristic will adopt advanced technology devices earlier and they are likely to perceive mobile shopping as in their control. In contrary, consumers with lower technology innovativeness will be late adopters of mobile shopping, because will perceive the lack of knowledge and technology resources.

Mobile commerce has made shopping anywhere, anyplace, anytime affair. Consumers are becoming increasingly comfortable with using digital technology in the shopping environment and considerable percent of population is using mobile devices to get discounts, find stores, redeem coupons and compare prices. Biggest challenge for online retailers is to adapt and connect with consumer (Ernst & Young, 2012).

Lu et al. (2003) proposed technology acceptance model (TAM) for wireless Internet. They found that constructs such as individual differences, technology complexity, facilitating conditions, social influences, and wireless trust environment determine user-perceived short and long-term usefulness and ease of using Wireless Internet via mobile devices (WIMD) determine user intention and willingness to adopt WIMD.

Jai et al. (2013) referred that it’s easy to associate an individual with a digital device in the online environment and online shoppers can conveniently connect with retailers’ online storefronts, mobile apps or social networks through devices like personal computers, smart phones or tablets.

Bruner and Kumar (2005) mentioned that mobile commerce is promising but its effectiveness depends on understanding of consumer acceptance of this technology. They applied technology acceptance model (TAM) in consumer context (c-TAM) and extend it by incorporating both utilitarian and hedonic aspects of technology use. They observed that perceived usefulness has been the predominant driver of technology adoption in workplace settings. Their empirical results showed that consumer adoption of Internet devices is influenced by perceived usefulness (a utilitarian aspect) and ‘fun’ attribute (a hedonic aspect). Moreover, visually oriented consumers are more likely to adopt these devices.

Bhatnagar et al. (2000) brought up the influence of demographics on risk aversion, which indicated that consumers who have spent more time using the Web seem to be more open to purchasing on the Internet, but access point has no direct effect on the
probability of purchase.

Kim and Lim (2001) reported that factors like entertainment, convenience, reliability, information quality and speed are related to consumers’ satisfaction with Internet shopping and they contribute towards selection of shopping sites.

Miyazaki and Fernandez (2001) found that higher Internet experience and the use of other remote purchasing methods lead to lower levels of perceived risk toward online shopping, which in turns results in higher online purchase rates. In addition to this, they noticed a correlation between amount of internet experience to the perceived fear of privacy rather than security.

Karayanni (2003) observed that compatibility and relative advantage were overall successful, whereas, demographics were unsuccessful, in distinguishing Web-shoppers from non-shoppers. Significant variables included three factors of compatibility (use of direct shopping; use of Web browsing activities at home; and use of Web browsing activities at the office), and two factors of relative advantage (motives; and impediments). They found that Web-shoppers are time-pressured consumers and give paramount importance to time saving and shopping convenience. Hence, Web-shopping should be considered complementary to traditional shopping. There were stronger discriminating effects of Web browsing activities performed at the office and home.

Koufaris (2002) in his study confirmed the double identity of the online consumer as a shopper and a computer user. He tested constructs from information systems (Technology Acceptance Model), marketing (Consumer Behavior), and psychology (Flow and Environmental Psychology) in an integrated theoretical framework of online consumer behavior. They examined how emotional and cognitive responses to visiting a Web-based store for the first time can influence online consumers’ intention to return and their likelihood to make unplanned purchases. He observed a significant impact of product involvement, Web skills, challenges and use of value-added search mechanisms on the Web consumer.

Li et al. (1999) mentioned that a consumer more conversant with Web is more likely to have a positive perception of the channel utilities and have a positive impact on actual online purchases. Frequency of online may also be affected by channel knowledge.
Freeman (2009) brought out that the ability to engage in online shopping subjects to the conditions that apply to Internet usage in general. These conditions include a computer with an internet connection, shopper’s ability to link to the supermarket website and his competency in navigating within the supermarket website to select items for purchase.

5.1.3 Studies related to factors affecting online buying behavior

Based on research of online shopping Wolfinbarger and Gilly (2001) identified and discussed attributes that facilitate goal-oriented online shopping, which include accessibility/ convenience, selection, information availability and lack of unwanted sociality from retail sales help or shopping partners such as spouses.

Becerra and Korgaonkar (2011) in their results found that brand trust beliefs affect online intentions, and may be needed to increase online sales. The influence of vendor trust beliefs on online intentions varies with brand trust, beliefs for products and for services is increased by brand trust beliefs.

Bellman et al. (1999) observed that typical Web consumers are time starved as they lead a wired lifestyle. These Web consumers shop online to save time. While designing online shopping environments online retailers should make standard or repeat-purchase more convenient (one-click-to-purchase approach), customize information for purchase decision and should offer easy check out process (Lohse and Spiller, 1998).

Bhatnagar et al. (2000) observed that risk outweighs the convenience in terms of the perceptions of the consumers regarding Internet as a marketplace. Therefore, online retailers should focus on reducing risk perception which has two components i.e. security of internet connections and product risk.

Broniarczyk et al. (1998) recommended grocery retailers to adopt ‘Efficient Assortment”. Their results indicated that retailers might be able to make substantive reductions in the number of items carried without negatively affecting assortment perceptions and store choice, as long as only low-preference items are eliminated and category space is held constant.

Chang (2011) noticed an improvement in participants attitudes toward the online store when the products were sorted into more subcategories (9 as opposed to 3), such that
more subcategory options appeared in the selection menu because participants perceived that the website offered a greater variety of products and experienced greater ease of navigation and shopping pleasure.

**Table 5.3** Studies related to factors affecting online buying behavior

<table>
<thead>
<tr>
<th>Variables</th>
<th>Related studies</th>
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<tbody>
<tr>
<td>Ease of use</td>
<td>(Cha, 2011; Helander et al., 1997; Jarvenpaa and Todd, 1997; Keeney, 1999; Soopramanien and Robertson, 2007; Vijayasarathy, 2004; Yang and Jun, 2008)</td>
</tr>
<tr>
<td>Access</td>
<td>(Balto, 2000; Helander et al., 1997; Karayanni, 2003; Li et al., 1999; Mukherjee and Nath, 2007; Phau and Poon, 2000; Quester and Chong, 2001; Wolfinbarger and Gilly, 2001; Yang and Jun, 2008)</td>
</tr>
<tr>
<td>Availability</td>
<td>(Gounaris et al., 2005; Helander and Khalid, 2000; Keeney, 1999; Kukar-Kinney and Close, 2010; Lin et al., 2010; Yang and Jun, 2008)</td>
</tr>
<tr>
<td>Convenience</td>
<td>(Bellman et al., 1999; Bhatnagar et al., 2000; Foucault and Scheufele, 2002; Gounaris et al., 2005; Helander and Khalid, 2000; Karayanni, 2003; Khan et al., 2015; Li et al., 1999; Lohse and Spiller, 1998; Raijas and Tuunainen, 2001; Sin and Tse, 2002; Wolfinbarger and Gilly, 2001)</td>
</tr>
<tr>
<td>Information</td>
<td>(Chen et al., 2009; Close and Kinney, 2010; Jarvenpaa and Todd, 1997; Keeney, 1999; Khan et al., 2015; Kim and Lim, 2001; Li et al., 1999; Phau and Poon, 2000; Raijas and Tuunainen, 2001; Vrechopoulos et al., 2001; Wolfinbarger and Gilly, 2001)</td>
</tr>
<tr>
<td>Choice</td>
<td>(Balto, 2000; Broniarczyk et al., 1998; Çelik, 2011; Chang, 2011; Keeney, 1999; Morales et al., 2005; Mukherjee and Nath, 2007)</td>
</tr>
<tr>
<td>Category</td>
<td>References</td>
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<td>--------------------------------</td>
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<tr>
<td>Incentive/Discounts</td>
<td>(Close and Kinney, 2010; Gounaris et al., 2005; Jarvenpaa and Todd, 1997; Kukar-Kinney and Close, 2010; Lin et al., 2010; Quester and Chong, 2001; Xie et al., 2006)</td>
</tr>
<tr>
<td>Product offerings</td>
<td>(Chang, 2011; Keeney, 1999; Li et al., 1999; Lin et al., 2010; Sin and Tse, 2002; Wolfinbarger and Gilly, 2001)</td>
</tr>
<tr>
<td>Consumer service</td>
<td>(Elliot and Fowell, 2000; Foucault and Scheufele, 2002; Helander et al., 1997; Keeney, 1999; Liao and Cheung, 2001; Raijas and Tuunainen, 2001)</td>
</tr>
<tr>
<td>Delivery</td>
<td>(Elliot and Fowell, 2000; Javadi et al., 2012; Khan et al., 2015; Kim and Lim, 2001)</td>
</tr>
<tr>
<td>Payment methods</td>
<td>(Kim and Lim, 2001; Kukar-Kinney and Close, 2010; Lin et al., 2010; Vrechopoulos et al., 2001)</td>
</tr>
<tr>
<td>Price</td>
<td>(Close and Kinney, 2010; Foucault and Scheufele, 2002; Helander and Khalid, 2000; Keeney, 1999; Khan et al., 2015; Kukar-Kinney and Close, 2010; Li et al., 1999; Liao and Cheung, 2001; Lim et al., 2011; Lin et al., 2011; Phau and Poon, 2000; Raijas and Tuunainen, 2001; Vrechopoulos et al., 2001)</td>
</tr>
<tr>
<td>Privacy</td>
<td>(Chen et al., 2002; Keeney, 1999; Kim and Lim, 2001; Kukar-Kinney and Close, 2010; Lin et al., 2010; Mukherjee and Nath, 2007)</td>
</tr>
<tr>
<td>Serviceability/Conflict Resolution</td>
<td>(Constantinides, 2004; Jarvenpaa and Todd, 1997; Keeney, 1999; Khan et al., 2015; Lin et al., 2010)</td>
</tr>
<tr>
<td>Trust</td>
<td>(Becerra and Korgaonkar, 2011; Constantinides, 2004;</td>
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<tr>
<td>Factor</td>
<td>References</td>
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<tr>
<td>Delivery time</td>
<td>(Hasslinger et al., 2007; Keeney, 1999; Kukar-Kinney and Close, 2010; Quaddus and Achjari, 2005; Rodriguez-ardura et al., 2008)</td>
</tr>
<tr>
<td>Delivery charges</td>
<td>(Hasslinger et al., 2007; Jarvenpaa and Todd, 1997; Keeney, 1999; Kukar-Kinney and Close, 2010; Lim et al., 2011)</td>
</tr>
<tr>
<td>Tangibility/ Sensation</td>
<td>(Gefen, 2002; Jarvenpaa and Todd, 1997; Keeney, 1999; Lin et al., 2010; Peterson et al., 1997; Phau and Poon, 2000; Riel et al., 2001; Shim and Mahoney, 1991; Webb and Webb, 2004)</td>
</tr>
<tr>
<td>Order accuracy</td>
<td>(Francis and White, 2002; Francis, 2007; Janda et al., 2002; Keeney, 1999; Wolfinbarger and Gilly, 2003)</td>
</tr>
<tr>
<td>Online purchase risk</td>
<td>(Bhatnagar et al., 2000; Janda et al., 2002; Javadi et al., 2012; Keeney, 1999; Khan et al., 2015; Lian and Yen, 2014)</td>
</tr>
<tr>
<td>Perceived control</td>
<td>(Bellman et al., 1999; Çelik, 2011; Close and Kinney, 2010; Janda et al., 2002; Katawetawraks and Wang, 2011; Rajamma et al., 2007)</td>
</tr>
<tr>
<td>Purchasing process</td>
<td>(Bellman et al., 1999; Constantinides, 2004; Kim and Lee, 2002; Kukar-Kinney and Close, 2010; Lim et al., 2009; Lin et al., 2010; Shih, 2004)</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>(Jarvenpaa and Todd, 1997; Keeney, 1999; Kim and Lee, 2002; Parasuraman et al., 1988; Yang and Fang, 2004; Yang and Jun, 2008)</td>
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</table>

Cha (2011) compared real and virtual items with respect to factors affecting purchase intention and consumer characteristics. They used a survey of 350 college students; the study revealed that college students apply different criteria according to the product types while making the decision to use an online shopping channel. Perceived benefits and risks of online shopping affect intention to purchase real items through the Internet, but they have no impact on intention to purchase virtual items. In
particular, perceived usefulness, ease of use, enjoyment, security, social norm, flow, and gender affect intention to purchase real items through the Internet. For virtual items, social norm and gender are the two predictors of intention to purchase.

Chen et al. (2002) argued that Privacy and security are major impediments of online shopping. Therefore, virtual stores need to educate consumers about the benefits and risks. A knowledgeable consumer can willingly adapt to online shopping and protect themselves while engaging in online transactions.

Close and Kinney (2010) indicated that price-motivated consumers have a higher frequency of placing items in their online carts compared to those not motivated by reduced cost offers. This price-related cart use behavior arises because some sites do not reveal the total price of the item, with tax and shipping/handling fees, until the shopper actually places item into the cart. They found that promotion programs stimulate promotion programs, and recommended every-day low pricing as such discount programs give consumers a greater sense of economic gain and control.

Constantinides (2004) brought out that for an online shopper Web experience embraces elements like searching, browsing, finding, selecting, comparing and evaluating information as well as interacting and transacting with the online firm. This experience and interaction with the Web are influenced by design, events, emotions, atmosphere and other elements of websites meant to induce customer goodwill and affect the final outcome of the online interaction. Kim and Lee (2002) pointed out that during information phase design factors are mostly related to the process of searching for specific products or browsing around the system for interesting items.

Constantinides (2004) highlighted that components of uncertainty reducing elements are “frequently asked questions” (FAQs) and conflict-resolution policies. An easy access to this type of information will enhances trust. It will also reduce the number of inquiries of customers with questions on such issues.

Constantinides (2004) suggested that online marketers should identify elements enhancing or undermining trust among potential customers and try to understand how those can affect the online customer’s perceptions. Such knowledge is valuable for incorporating the right mix of trust-establishing elements in the Web site and creating the proper organizational infrastructure, i.e. technological, organizational as well as
managerial, which is required for delivering this mix.

Delivery fulfillment includes a firm's accuracy in product delivery and its willingness to correct mistakes which occur during the transaction. This sub-dimension is similar to Parasuraman et al. (2005) reliability dimension as both stress the importance of accurate delivery and error-free order processing (Janda et al., 2002).

Elliot and Fowell (2000) recommended the retailers to understand that, an online customer's experience is not limited to selection of products and electronic payments, but it includes the establishment and maintenance of the customer-retailer relationship, the delivery of the product purchased and subsequent consumer-retailer communications.

For developers of e-stores Jarvenpaa and Todd (1997) gave various recommendations i.e. offer discounts, except for unique products, focus on products that have low delivery cost, benchmark the e-store against traditional retail stores and catalog stores, emphasize brand name products and product quality, reduce shopping effort by providing search techniques, respond promptly to questions, provide no-cost/no-hassle return policy, provide rich product descriptions including images and words, emphasize security measures and provide customer testimonial.

Foucault and Scheufele (2002) noticed a strong correlation between perception that needs, such as good customer service and a hassle-free shopping environment, would be met online and likelihood to make an online purchase. This correlation was found to be strong for both past and future intended purchasing behavior. However, cost was not considered an important factor in the decision to purchase online. Similarly, Sin and Tse (2002) observed that as compared to non-buyers, Internet buyers have more favorable attitudes towards the security and reliability, convenience, and product variety of Internet shopping.

Francis (2007) in their literature review mentioned about PIRQUAL (Francis and White, 2002) and eTailQ (Wolfinbarger and Gilly, 2003) which include dimensions like, website (site design and content), delivery/fulfillment (accuracy and reliability of product delivery), customer service (pre or post-purchase enquiries and problem-handling) and security/privacy (credit card details and personal information).

Ganguly et al. (2010) conducted a study with culture as a moderator in the relation
between website design and trust in the context of B2C online shopping. Their results indicated that culture acts as moderator in the relationship between website design factors and trust, and also between trust and purchase intention. Further, they also noticed that trust was given more importance by Indians (compared to the Canadians and Americans) to reduce perceived risk.

Gefen, (2002) highlighted that recent uses of SERVQUAL in evaluating constructs in the B2C domain have found significant results. Tangibility has been found to be associated with increased consumer loyalty and a combined dimension of responsiveness, reliability, and assurance with increased consumer trust. As per Webb and Webb (2004) tangibility in B2C context should include latest technology design for overall visual appeal and professional appearance of web site. Riel et al. (2001) also argued that the ‘tangibility’ dimension of SERVQUAL could be replaced by a dimension of ‘web design’ or ‘user interface’.

Gounaris et al. (2005) investigated specific antecedents of perceived service quality in the Internet environment such as trust, experience, excitement and extent of using e-commerce, frequency of purchases, supplemented by reasons for shopping online: such as price discounts, convenience, product availability, and purchase conditions.

Gummerus et al. (2004) mentioned that prompt response to customer’s requests can increase perceived convenience and diminish uncertainty. Certain researchers used ‘responsiveness’ as a label to describe online retailers’ prompt response to customer inquiries and information request (Kim and Lee, 2002; Parasuraman et al., 1988). Yang and Fang (2004) said that besides traditional communication means such as phone call, online customers also look for prompt responses and confirmation to their inquiries through e-mail. Customers become annoyed or even angry when they don’t receive any response from firm.

Hassanein and Head (2007) suggested that adding socially rich descriptions and pictures can infuse social presence into websites which in turn positively impact the perceived usefulness, trust and enjoyment of a commercial website, thus creating favorable attitudes towards that online store.

Hasslinger et al. (2007) observed that while buying online, additional costs such as freight charges, customs or prolonged delivery times can influence the online consumer’s decision to reconsider the transaction even though the price is low.
Helander and Khalid (2000) suggested that e-store environment should be designed to support customer decisions: to enter the store, to navigate, to purchase, to pay, and to keep the merchandise. Process must be pleasing, fun and with natural flow, because customer have different needs, competence and motivation. They also found that while shopping online consumer decision is influenced far more by factors such as convenience, product availability and cost, rather than security concern.

Helander et al. (1997) suggested that many general principles for design of human-computer interfaces like, simplicity, support, visibility, reversible action, feedback, accessibility and personalization apply to the design of e-commerce environments also.

In their empirical study Lian and Yen (2014) concluded that, for older adults, the major online shopping driving forces are performance expectation and social influence and major barriers are value, risk, and tradition, younger consumers have significantly higher drivers and lower barriers than their older counterparts and the moderating effects of gender difference are insignificant.

In their study Karayanni (2003) found that the most powerful discriminant variable between web shoppers and non-shoppers was shopping motives, which primarily include time efficiency, availability of 24 hours shopping and queues avoidance.

Janda et al. (2002) mentioned that performance dimension goes beyond the customer's receipt of the appropriate merchandise and it includes the amount of time and hassle that online consumers perceive it takes to complete the entire sales transaction. Therefore, transaction efficiency and delivery fulfillment were conceptualized as components of the performance dimension.

Javadi et al. (2012) found that fear of losing money and financial details and non-delivery of order have negative influence on attitude towards shopping online.

Keeney (1999) organized and identified objectives related to Internet Commerce as means objectives or fundamental objectives. Means objectives related to Internet Commerce: minimize (fraud, misuse of credit card, misuse of personal information, personal travel), maximize (access to information, product information, accuracy of transaction, product variety, product availability, ease of use), assure (system security, reliable delivery), limit impulsive buying, enhance comparison shopping, make better
purchase choices and offer personal interaction. Fundamental objectives related to Internet Commerce: minimize (time to receive product, time spent, cost, environmental impact) and maximize (customer satisfaction, product quality, convenience, privacy, shopping enjoyment, safety)

Khan et al. (2015) investigated the perceived factors affecting customer satisfaction to re-purchase intention in e-stores and suggested that seven constructs i.e. price, convenience, product information, return policy, financial risk, product risk and delivery risk are significant with customer satisfaction to re-purchase in e-stores.

Kim and Lim (2001) suggested that if consumers consider the information quality an important factor, their probability of purchase through the Internet will be high. Consumers who want more width and depth of up-to-date information perceive Internet as transaction-oriented medium rather than an entertainment-based medium (Randall, 1997). Further online retailers should improve in terms of reliability (consumer privacy, payment and delivery), convenience and prepare a system for compensating consumers in case of possible problems with reliability.

Kukar-Kinney and Close (2010) proposed an extension of inhibitors to the online purchase process i.e. social influences, lack of availability, high price, shopper’s financial status, time pressure, organization and research, privacy & security issues and technology glitches & issues. They found even without purchasing, merely placing items in a cart is a form of entertainment or boredom release for online shoppers and concerns about the total cost of the order and the shopper’s intention to wait for a lower price were two other important drivers of cart abandonment.

Li et al. (1999) asked their respondent to rate twelve channel attributes, which aligned under three heads: communication utility (wide selection of goods, quantity of information, update of information), distribution utility (pre-purchase inspection, security of payment methods, prompt access to goods purchased, post-purchase service, and ease of exchange or return) and accessibility utility (ease of information customization, degree of interactivity, convenience of accessing, degree of effort in using). They found that frequent Web buyers perceived the Web to be significantly higher in the three kinds of channel utilities than occasional Web buyers. Their findings also indicated that education, convenience orientation, experience orientation, channel knowledge, perceived distribution utility and perceived
accessibility are robust predictors of online buying status (frequent online buyer, occasional online buyer, or non-online buyer) of Internet users.

Li et al. (1999) observed that frequent and occasional Web buyers are indeed not more price-sensitive than non-Web buyers as online price comparison is time-consuming and may not be worth much given the small differences in price between different vendors. Further smart online retailers will try to differentiate their products or services to make direct price-comparisons less important.

Liao and Cheung (2001) analyzed consumer attitudes towards Internet-based e-shopping. Their results depicted that life content of products, transactions security, price, vendor quality, IT education and Internet usage significantly affect the initial willingness of Singaporeans to e-shop on the Internet. They suggested that B2C e-commerce can be profitably introduced or promoted along similar dimensions in socio-geographically and technologically similar situations.

Lim et al. (2011) adopted a rule-based comparison shopping framework using the extensible Rule Markup Language (XRML) architecture, which computes the exact personalized delivery cost at comparison sites. They conducted an experiment on the purchase of books based on real-world data from five leading online bookstores. In their experiment they observed that rule-based comparison can significantly outperform data-based comparison in terms of the total cost of product and delivery. They also found that the comparison of delivery cost is very important because the variance of delivery cost can be as big as the variance of book prices itself.

Lin et al. (2010) mentioned that eight e-marketing terms are perceived as essential for all styles of shoppers: privacy policy, shopper service section, the return policy, web sites’ interface is user friendly, availability of preferred product, product picture, online payment option and order checking facility. While shopping in general, online shoppers view e-marketing term of ‘the availability of sales, discounts, or special offers’ to be more important.

Lin et al. (2011) studied the moderating effects of household (e.g., shopping frequency) and product (e.g., sensory nature) characteristics on household brand loyalty, size loyalty and price sensitivity across online and offline channels for grocery products. They found that households are more brand loyal, more size loyal but less price sensitive in the online channel than in the offline channel. Brand loyalty,
size loyalty and price sensitivity are closely related to household and product characteristics. Light online shoppers exhibited highest brand and size loyalties, but the lowest price sensitivity in the online channel. Heavy online shoppers displayed lowest brand and size loyalties, but the highest price sensitivity in the online channel. Moderate online shoppers exhibited highest price sensitivity in the offline channel. The online-offline differences in brand loyalty and price sensitivity were largest for light online shoppers and smallest for heavy online shoppers. The online–offline differences in brand loyalty, size loyalty and price sensitivity were larger for food products and for sensory products.

Many researchers have suggested that online shopping is a goal-oriented behaviour of some magnitude and the extrinsic motivators such as the tangible rewards (e.g. time saving, cost reduction and bargain dealing) or the intangible benefits (e.g. round-the-clock convenience, hassle-free shopping, less dependency on the physical stores, access to detailed product information and availability of wide product selection) predominantly evoke the customers’ online purchase intentions (Çelik, 2011; Lim and Dubinsky, 2004; Wolfinbarger and Gilly, 2001).

Mukherjee and Nath (2007) suggested a significant modification to the traditional commitment-trust theory (CTT) model in the online environment. They found that privacy and security features of the website along with shared values are the key antecedents of trust, which in turn positively influences relationship commitment. Behavioral intentions of customers are outcome of both trust and commitment. The relationship termination cost and relationship benefit have a negative and positive effect on customer commitment respectively.

Xie et al. (2006) recommended online retailers to offer rewards such as discounts or coupons to encourage consumers who are likely to wait or search for a lower price to complete the purchase.

Phau and Poon (2000) compared Internet shopping among Internet and non-Internet buyers and found that product and service type classification significantly influences the consumer choice between a retail store and the Internet shopping mall. They observed that the products and services that have a low outlay, are frequently purchased, have intangible value proposition, and are relatively high on differentiation are more likely to be purchased via the Internet. They mentioned that within the
Singapore context, expensive goods like automobiles, jewellery, and stereo systems are not ready for Web selling because they involve high monetary risk and also require more than visual inspection. Their findings were in coherence with prior studies (Shim and Mahoney, 1991), where perceived risk tends to impede the adoption of online shopping systems. In case of frequently purchased goods perceived risks would be very much reduced, because consumer has considerable personal experience and the Internet may serve as an effective communication and transaction medium. Peterson et al. (1997) also indicated that Internet-related marketing is more suitable for intangible or service-related offerings. A consumer wishing to experience the merchandise prior to purchase might use a traditional retail channel to experience the merchandise and then revert to an Internet-based channel when acquiring it (Phau and Poon, 2000).

Quaddus and Achjari (2005) proposed high level framework of electronic commerce success. This framework includes internal drivers (cost leadership, reputation, market and business entry), external drivers (product pricing, time spent, convenience and external relationship), internal impediment (financial, risks and expertise) and external impediments (customer’s expense, delivery time, transaction risk and access).

Raijas and Tuunainen (2001) found that typical customers in an electronic grocery store (EGS) in Finland are wealthy dual-career families with small children, who live around large cities, who want to save their time and effort. They compared users and the non-users of EGSs and found that consumers prefer an electronic channel over a traditional one because of lower price-level, better service and information.

Rajamma et al. (2007) observed that motivational profiles of bricks and mortar and online shoppers for tangible product categories are slightly different. For entertainment electronics and functional products bricks and mortar consumers attaching a higher importance to merchandise, assurance, hassle reduction, and enjoyment motivation factors show a significant effect than practicality and responsiveness dimensions.

Research studies highlighted that most important aspect of online retailing from the customer’s perspective is the increase in access and choice, and especially in the information on products and services. Earlier a typical customer used to get choice limited to local level (one’s specific county, city or state) (Balto, 2000). Whereas in
the age of the internet, consumer can choose from lot of online retailers located anywhere in the world (Mukherjee and Nath, 2007).

Results of Koufaris (2002) confirmed the double identity of the online consumer as a shopper and a computer user because both shopping enjoyment and perceived usefulness of the site strongly predict intention to return.

Results of Quester and Chong (2001) show that the potential adopters are more likely to perceive that the price of product on the Internet are lower than that in the retail store. This is good opportunity for marketers to offer some discount to attract them to try online shopping services. But relying too much on price cuts can cause profit shrinking or even loss, therefore firms should

Rodriguez-ardura et al. (2008) highlighted that price is not the only important element in the design of the value proposition, but other elements like product information, website design, customer service, reliability and speed of delivery, brand image, facilities for making orders, loyalty programs, personalization of the communication and switching costs are equally important.

Shih (2004) cited that consumer see an e-market as a trading center that supports e-shopping processes—from searching and requesting target products/services, evaluating and selecting candidate products or services, to ordering, delivery, and final payment.

Since convenience and time saving are biggest drivers of consumers’ online grocery shopping (Morganosky and Cude, 2002), grocery retailers should configure their Web to enhance consumers’ perceptions of relative advantage and compatibility in shopping grocery products and reduce perceived complexity in searching and ordering grocery products online (Lim et al., 2009).

Some researchers argued that large amount of information can confuse e-customers, therefore e-retailer should screen appropriate information to consumers. Simplification, personalization and maintaining information load at optimum level can create a pleasant e-storefront (Chen et al., 2009; Huang, 2003).

Swilley and Goldsmith (2013) found that consumers found more enjoyment in shopping at the mall on Black Friday than shopping online on Cyber Monday. The enjoyment leads to a positive attitude toward shopping either at the mall or online, it
has a significant bearing on the intention to shop during these two days. Mall shopping was found to be more enjoyable due to opportunity to shop with others, see Santa Claus, as well as experience holiday decorations. Whereas online shopping lacks these experiences and can be anxiety-driven.

Taking advantage of low search costs Internet buyers can compare similar products across different Websites with a click of the mouse. To encourage impulse purchases online retailers should equip their Web sites with easy online ordering mechanism and keep themselves available 24 hours a day (Phau and Poon, 2000).

The research by Close and Kinney (2010) confirmed that many shoppers who use their virtual carts indeed intend to make an online purchase at that time. Online retailers should make the purchase process as simple and hassle-free as possible (e.g., availability of one-click buying option for returning customers). This will prevent customer flight to a competitor's site, retail store, or an alternative channel. In order to convert visitor into buyer, online stores should focus on creating fast website with functional design. This will improve their website by offering customer a comfortable, logical, interesting and hassle-free process and easy language (Katawetawarak and Wang, 2011).

The results of study conducted by Kim et al. (2011) indicated that navigation functionality and perceived security had a significantly positive effect on trust. But that transaction cost had no effect on trust. Satisfaction was found to positively impact trust which, in turn, influenced customer loyalty. Their findings indicated that customer satisfaction influences trust, which plays a key role as an antecedent of customer loyalty.

Through the results of three laboratory studies Morales et al. (2005) noted that for familiar categories, congruency between a consumer’s internal categorization structure and the external store layout leads to higher perceptions of variety and higher satisfaction with product choices, while for unfamiliar product categories, congruency between shopping goals and external structure leads to lower perceptions of variety but increased satisfaction with the store’s assortment.

Through their exploratory study Yang and Jun (2002) deciphered six service quality dimensions (reliability, access, ease of use personalization, security, and credibility) in the context of Internet commerce, from the perspectives of Internet purchasers and
Internet non-purchasers.

Vrechopoulos et al. (2001) suggested virtual retailers to offer personalized shopping environments according to their customers' specific needs and wishes because provision of a one-to-one instead of a one-to-many shopping experience constitutes a critical success factor. Another important factor is provision of alternative payment methods. Internet shoppers prefer "cash on delivery" payment method (for security reasons or non-availability of a credit card). Three very crucial elements that every virtual store's management should consider and offer to its customers are product information, price comparison among alternative products and quick access to the store's Web site. Their study revealed that prices at virtual retail store must be lower than those at the physical stores, as both current and future Internet shoppers would not buy from a virtual store in case prices were higher, regardless of the free delivery service offered to them.

Yang and Jun (2008) identified seven dimensions in the Internet non-purchaser group, i.e. security (risk associated with online purchase, continuous credit card charges, sensitive information, and distrustful Internet retailers), responsiveness (slow Internet speed, online jam, slow responses from online retailers, slow information retrieval, and delayed responses), ease of use (difficulties in following the organization and structure of online catalogs, understanding content, grasping terms and conditions related to products and services, and the lack of sufficient product/service description), availability (limited product and service selection, hard-to-find desired products and services, and out-of-date information contained in online catalogues), reliability (failure to e-mail or call customer by a promised time, uncertainty of delivering the right products, and worry concerning incorrect charges), personalization (difficulty in receiving personalized customer service and interacting with Internet retailers in real time for questions), and access (inaccessibility of retailers, customer representatives, and online help sources such as chat rooms and bulletin boards).
Section 2

5.2 Studies related to service quality in online retail

Measuring service quality in online retail is critical. This section puts in foreground key methodological issues of prevailing research on e-service quality scale development. Content analysis of thirty research papers sourced from prestigious databases has been done to detect defects within research and sampling methods, survey administration, item generation and purification, dimensionality analysis, reliability and validity assessment. Also observations regarding dimensionality of online service quality constructs have been highlighted. This research has revealed deficiencies in sample size and composition, quantitative orientation in research methods, leniency in item generation/purification and negligent assessment of reliability and validity. It has been found that e-service quality is multidimensional in nature and there is no consensus on number and nature of dimensions, although security/privacy, website design, reliability, responsiveness and information emerged as most cited dimensions. Electronic and traditional service quality dimensions displayed analogy in direct or adapted form. This research is first to highlight key methodological issues of prevailing research on e-service quality scale development in context of online retail. Implications for researchers and managers are summarized at the end of the study.

The findings of extensive literature survey sourced from well-known publishers like, Elsevier, Emerald, Routledge, Sage, International Association of Computer Information Systems (IACIS) and reputed conference proceedings are depicted in Table 5.1. This content analysis includes studies related to electronic service quality scale development and their underlying dimensions, with context to online retail. The observations regarding dimensionality of online service quality constructs are also discussed in the conclusion section. Methodological implications regarding research and sampling methods, survey administration, item generation and purification, dimensionality, reliability and validity assessment are discussed below:
<table>
<thead>
<tr>
<th>S.no.</th>
<th>Study</th>
<th>Sample</th>
<th>Type of Website</th>
<th>Research Method</th>
<th>Sampling Method</th>
<th>Surveys Procedure for accessing factor structure</th>
<th>Original Battery of Items</th>
<th>Final Battery of Items</th>
<th>Final number of dimensions</th>
<th>Internal Reliability Coefficient (α/Composite construct reliability)</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Szymanski and Hise (2000)</td>
<td>Respondents: 1007, Shoppers, NFO, Inc panel of internet users</td>
<td>Age: Mean age 44 years, Gender: 22% females</td>
<td>Mixed Random</td>
<td>Online survey 7 point scale</td>
<td>EFA and CFA With LISREL 8 Factor analysis</td>
<td>Convenience, Convenience, Convenience, Convenience, Convenience</td>
<td>13</td>
<td>11</td>
<td>5 dimensions: Convenience (3), Product offerings (2), Product information (2), Site design (3), Financial security (1)</td>
<td>Ranges from 0.69 to 0.92</td>
</tr>
<tr>
<td>2</td>
<td>Elliot and Fowell (2000)</td>
<td>Respondents: 35 postgraduate students</td>
<td>Age: Average age 26 years, Gender: 46% females</td>
<td>Quantitative</td>
<td>Qualitative, Cumulative in-depth analysis</td>
<td>EFA and CFA With LISREL 8 Factor analysis</td>
<td>Convenience, Convenience, Convenience, Convenience</td>
<td>11</td>
<td>13</td>
<td>3 dimensions: site (5), consumer (5), consumer additional factors (3)</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Yoo and Douthu (2001)</td>
<td>Respondents: 69, students in the first stage (207 website evaluations) and 47 individuals for the second stage (187 site evaluations)</td>
<td>Country: USA, Gender: 48.93% females</td>
<td>Quantitative</td>
<td>Offline questionnaire 5 point scale</td>
<td>EFA and CFA With LISREL 8 Factor analysis</td>
<td>Convenience, Convenience, Convenience, Convenience</td>
<td>8</td>
<td>54</td>
<td>9 dimensions: Ease of use (2), aesthetic design (3), processing speed (2), security (2)</td>
<td>Ranges from 0.69 to 0.83</td>
</tr>
</tbody>
</table>

Table 5.4 Reviewed studies related to online service quality scale development in context of online retail.
<table>
<thead>
<tr>
<th>Name</th>
<th>Respondents:</th>
<th>Age:</th>
<th>EFA and CFA</th>
<th>Quantitative</th>
<th>Online shopping</th>
<th>Convergent,</th>
<th>Discriminant,</th>
<th>Face, Nomological, Contacts, and Information Leverage</th>
<th>Online Business-to-Customer (B2C)</th>
<th>E-mail invitation with embedded URL link to the website hosting the survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cho and Park (2001)</td>
<td>435</td>
<td>71.2% in 20-29 age group</td>
<td>33</td>
<td>33</td>
<td>Mixed</td>
<td>Confirmatory</td>
<td>Confirmatory</td>
<td>7 point scale</td>
<td>0.69 to 0.86</td>
<td>5 dimensions: product information (5), consumer service (7), purchase result and delivery (5), site design (4), purchasing process (4), product merchandising (4), delivery time and charge (4), payment methods (2), ease of use (4), additional information services (2)</td>
</tr>
<tr>
<td>Yang and Jun (2002)</td>
<td>271 ISP subscribers</td>
<td>Country: USA</td>
<td>34</td>
<td>34</td>
<td>Mixed</td>
<td>Confirmatory</td>
<td>Confirmatory</td>
<td>6 point scale</td>
<td>0.69 to 0.86</td>
<td>6 dimensions: reliability (4), access (4), ease of use (4), personalization (3), security (2) and credibility (2).</td>
</tr>
<tr>
<td>Janda, Trocchia, and Gwinner (2002)</td>
<td>446 internet users with at least one internet purchase within the last 6 months</td>
<td>Country: USA</td>
<td>22</td>
<td>22</td>
<td>Mixed</td>
<td>Confirmatory</td>
<td>Confirmatory</td>
<td>7 point scale</td>
<td>0.61 to 0.83</td>
<td>5 dimensions: performance (6), access (4), security (4), sensation (4) and information (4).</td>
</tr>
<tr>
<td>Srinivasan et al. (2002)</td>
<td>1,211 online customers</td>
<td>Online business-to-consumer (B2C) context</td>
<td>41</td>
<td>41</td>
<td>Mixed</td>
<td>Confirmatory</td>
<td>Confirmatory</td>
<td>7 point scale</td>
<td>0.63 to 0.87</td>
<td>7 dimensions: customization (5), contact interactivity (5), care (5), community (5), cultivation (5), choice (4), and character (5).</td>
</tr>
<tr>
<td>Francis and White (2002)</td>
<td>302 Australian internet shoppers</td>
<td>Country: Australia</td>
<td>41</td>
<td>41</td>
<td>Mixed</td>
<td>Confirmatory</td>
<td>Confirmatory</td>
<td>7 point scale</td>
<td>0.73 to 0.87</td>
<td>6 dimensions: web store functionality (5), product attribute description (2), ownership condition (5), delivered products (2), customer service (5) and security (4).</td>
</tr>
<tr>
<td>Reference</td>
<td>Methodology Details</td>
<td>Sample/Participants</td>
<td>Data Collection Tool</td>
<td>Data Analysis</td>
<td>Findings/Results</td>
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<tr>
<td>Yang et al. (2003)</td>
<td>Quantitative - Qualitative</td>
<td>1,078 consumer anecdotes through gomez and ratingwonders</td>
<td>9 most influential online health product companies</td>
<td>Content Analysis</td>
<td>42 dimensions of user experience related to these companies, with a focus on 14 dimensions: Responsiveness (4), Credibility (2), Ease of use (6), Reliability (7), Convenience (3), Communication (4), Access (2), Competence (2), Courtesy (3), Personalization (1), Continuous Improvement (3), Collaboration (2), Security/privacy (2), and Aesthetics (1).</td>
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<tr>
<td>Trocchia and Janda (2003)</td>
<td>Qualitative - Online Retail Qualitative Random semi-structured interviews employing technique derived from existential-phenomenological paradigm</td>
<td>Respondents: 58 online shoppers, country: USA, age: between 14-62 years, gender: 51.72% females</td>
<td>Online Retail Qualitative Random semi-structured interviews employing technique derived from existential-phenomenological paradigm</td>
<td>Hermeneutic Logic</td>
<td>5 dimensions: performance (2), access (2), security (2), sensation and information (2).</td>
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<td>Wolfinbarger and Gilly (2003)</td>
<td>Mixed Methodology</td>
<td>Respondents: Focus group studies and survey of 1013 respondents through Harris Poll Online Panel, country: USA and Canada, age: 18 plus</td>
<td>Online Retail Mixed Random Online survey</td>
<td>EFA and CFA</td>
<td>4 dimensions: web site design (5), reliability (3), privacy/security (3), customer service (3). Ranges from 0.79 to 0.89 for convergent, discriminant, and predictive/nomological validity.</td>
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<tr>
<td>Cai and Jun (2003)</td>
<td>Quantitative - Convenience offline questionnaire</td>
<td>Respondents: 171 MBA and undergraduate students, members of a local chapter of ISM and ASQC, country: USA, age: 46.7% in 16-24 age group, gender: 36.8% females</td>
<td>Convenience offline questionnaire</td>
<td>EFA</td>
<td>4 dimensions: web site design/content (6), trustworthiness (4), prompt/reliable service (4), and communication (5). Ranges from 0.78 to 0.89 for content, convergent, and discriminant validity.</td>
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<tr>
<td>Study</td>
<td>Respondents</td>
<td>Country</td>
<td>Age</td>
<td>Gender</td>
<td>Operationalization</td>
<td>Scale</td>
<td>Dimensions</td>
<td>Data Collection</td>
<td>Data Analysis</td>
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<td>Jun et al. (2004)</td>
<td>228 MBA and undergraduate students, members of a local chapter of ISM and ASQC</td>
<td>USA</td>
<td>66% in 25-34 age group</td>
<td>39% females</td>
<td>Quantitative Convenience Offline questionnaire 5 point scale</td>
<td>Principal component factor analysis</td>
<td>6 dimensions: reliable/prompt responses (6), access (4), ease of use (4), attentiveness (3), security (2), and credibility (2).</td>
<td>Ranges from 0.59 to 0.92</td>
<td></td>
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<tr>
<td>Long and McMellon (2004)</td>
<td>447 individuals who were about to purchase an item from a retail internet site</td>
<td>USA</td>
<td>Between 14-72 years</td>
<td>55.6% females</td>
<td>Mixed Convenience Offline questionnaire 7 point scale</td>
<td>Principal component factor analysis</td>
<td>5 dimensions: tangibility (7), assurance (3), reliability (3), purchasing process (3) and responsiveness (3)</td>
<td>Ranges from 0.51 to 0.83</td>
<td></td>
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<tr>
<td>Choi et al. (2004)</td>
<td>420 undergraduate students from two Korean universities</td>
<td>Korea</td>
<td>Average age 24.50 years</td>
<td>35.8% females</td>
<td>Quantitative Convenience Offline questionnaire 5 point scale</td>
<td>SEM using LISREL 8.30</td>
<td>2 dimensions: functional web service quality (5) and technical web service quality (2)</td>
<td>Ranges from 0.66 to 0.68</td>
<td></td>
<td></td>
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<tr>
<td>Kim and Stoel (2004)</td>
<td>273 female who purchased apparel online</td>
<td>USA</td>
<td>Average age 36 years</td>
<td>100% females</td>
<td>Quantitative Convenience Online survey 7 point scale</td>
<td>EFA 65 25</td>
<td>6 dimensions: web appearance (6), entertainment (6), informational fit to task (4), transaction capability (4), response time (3) and trust (2)</td>
<td>Ranges from 0.83 to 0.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lee and Lin (2005)</td>
<td>297 senior year undergraduate students taking the course on e-commerce</td>
<td>Taiwan</td>
<td>68.4% are less than 25 years</td>
<td>46% females</td>
<td>Convenience Online Survey Quantitative Convenience Offline survey 7 point scale</td>
<td>CFA and SEM Based on modified SERVQUAL in online shopping context</td>
<td>5 dimensions: Web site design (3), Reliability (4), Responsibility (3), Trust (2) and Personalization (3)</td>
<td>Ranges from 0.74 to 0.85</td>
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</tr>
</tbody>
</table>

**Notes:**
- **Jun et al. (2004)**: Respondents - 228 MBA and undergraduate students, members of a local chapter of ISM and ASQC. Country - USA. Age - 66% in 25-34 age group. Gender - 39% females. Methodology - Quantitative Convenience. Data Collection - Offline questionnaire. Scale - 5 point scale. Analysis - Principal component factor analysis. Dimensions - 6 dimensions: reliable/prompt responses (6), access (4), ease of use (4), attentiveness (3), security (2), and credibility (2). Ranges from 0.59 to 0.92.
- **Long and McMellon (2004)**: Respondents - 447 individuals. Country - USA. Age - Between 14-72 years. Gender - 55.6% females. Methodology - Mixed Convenience. Data Collection - Offline questionnaire. Scale - 7 point scale. Analysis - Principal component factor analysis. Dimensions - 5 dimensions: tangibility (7), assurance (3), reliability (3), purchasing process (3) and responsiveness (3). Ranges from 0.51 to 0.83.
- **Kim and Stoel (2004)**: Respondents - 273 female. Country - USA. Age - Average age 36 years. Gender - 100% females. Methodology - Quantitative Convenience. Data Collection - Online survey. Scale - 7 point scale. Analysis - EFA. Dimensions - 6 dimensions: web appearance (6), entertainment (6), informational fit to task (4), transaction capability (4), response time (3) and trust (2). Ranges from 0.83 to 0.89.
- **Lee and Lin (2005)**: Respondents - 297 senior year undergraduate students. Country - Taiwan. Age - 68.4% are less than 25 years. Gender - 46% females. Methodology - Convenience. Data Collection - Online Survey. Scale - 7 point scale. Analysis - CFA and SEM. Dimensions - 5 dimensions: Web site design (3), Reliability (4), Responsibility (3), Trust (2) and Personalization (3). Ranges from 0.74 to 0.85.
<table>
<thead>
<tr>
<th>No</th>
<th>Authors (year)</th>
<th>Respondents:</th>
<th>Country:</th>
<th>Age:</th>
<th>Gender:</th>
<th>Method:</th>
<th>Content:</th>
<th>Convergent</th>
<th>Discriminant</th>
<th>Predictive</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Gounaris et al. (2005)</td>
<td>240</td>
<td>Greece</td>
<td>52.3% in 26-35 age group</td>
<td>31.6% females</td>
<td>Online Retail Quantitative Random</td>
<td>E-mail containing survey instrument as an attachment</td>
<td>5 point scale</td>
<td>EFA and CFA</td>
<td>Content, Convergent, Discriminant</td>
</tr>
<tr>
<td>21</td>
<td>Collier and Bienstock (2006)</td>
<td>266 college students of southeastern university</td>
<td>USA</td>
<td>Average age 25 years</td>
<td>50% females</td>
<td>Online Retail Quantitative Convenience</td>
<td>Offline questionnaire</td>
<td>5 point scale</td>
<td>CFA AMOS</td>
<td>95 items: Process quality (28), outcome quality (9), recovery (51), satisfaction and behavioral intentions (7)</td>
</tr>
<tr>
<td>22</td>
<td>Kim et al. (2006)</td>
<td>81</td>
<td>USA</td>
<td>Women's apparel retail websites</td>
<td>Not reported</td>
<td>Content Analysis of 111 women's apparel retail websites</td>
<td>Content Analysis</td>
<td>81 dimensions: Efficiency (15), Fulfillment (6), System Availability (2), Privacy (8), Responsiveness (2), Contact (2), Personalization (18), Information (7) and Graphic Style (21).</td>
<td>-</td>
<td>Content, Convergent, Discriminant, Satisfaction and Behavioral Intentions (7)</td>
</tr>
<tr>
<td>23</td>
<td>Bauer et al. (2006)</td>
<td>384</td>
<td>Germany</td>
<td>63% in 20-40 age group</td>
<td>40% females</td>
<td>Online Retail Quantitative Random</td>
<td>Online survey</td>
<td>5 point scale</td>
<td>EFA and CFA</td>
<td>Content, Convergent, Discriminant, Predictive</td>
</tr>
<tr>
<td>24</td>
<td>Parasuraman et al. (2005)</td>
<td>549 internet users</td>
<td>USA</td>
<td>Respondent to evaluate their favorite online shopping site</td>
<td>Mixed Random</td>
<td>Online survey</td>
<td>5 point scale</td>
<td>EFA and CFA</td>
<td>Content, Convergent, Discriminant</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Parasuraman et al. (2005)</td>
<td>193</td>
<td>USA</td>
<td>Women's apparel retail websites</td>
<td>Not reported</td>
<td>Content Analysis of 111 women's apparel retail websites</td>
<td>Content Analysis</td>
<td>19 dimensions: Efficiency (8), System Availability (4), Fulfillment (7) and Privacy (3)</td>
<td>-</td>
<td>Content, Convergent, Discriminant, Predictive</td>
</tr>
<tr>
<td>26</td>
<td>Parasuraman et al. (2005)</td>
<td>113</td>
<td>USA</td>
<td>Women's apparel retail websites</td>
<td>Not reported</td>
<td>Content Analysis of 111 women's apparel retail websites</td>
<td>Content Analysis</td>
<td>11 dimensions: Efficiency (15), Fulfillment (6), System Availability (2), Privacy (8), Responsiveness (2), Contact (2), Personalization (18), Information (7), Graphic Style (21), Ease of Use (5), Privacy (4), Design (5), Information Accuracy (6), Functionality (5), Order Condition (3), Timeliness (3), Order Accuracy (3), Interactive Fairness (10), Outcome Fairness (4), Procedural Fairness (6)</td>
<td>-</td>
<td>Content, Convergent, Discriminant, Satisfaction and Behavioral Intentions (7)</td>
</tr>
</tbody>
</table>
Francis (2007) Respondents: 40 interviews were conducted with consumers who had purchased products via the internet for personal, non-business reasons.

Age Group: Between 25-53 years
Gender: 37.5% females

Product or services retail website

Qualitative Convenience - 20 Items based on PIRQUAL

5 dimensions: website (8), transaction (4), delivery (6), customer service (5) and security (4).

Cheng et al. (2008) Respondents: 250 Taipei train station walk-ins
Country: Taiwan
Age Group: Between 15-50 years
International shopping websites

Quantitative Systematic Offline survey 7 point scale CFA 30

5 dimensions: etailer brand equity (3), country of etailer (4), guarantee quality (5), etailer service quality (7) and online purchase risk (11)

Ranges from 0.88 to 0.91
Convergent, Discriminant

Ha and Stoel (2009) Respondents: 298 students
70% respondents Caucasians
Age Group: Mean age 26 years
Gender: 64.5% females
Online apparel retailers

Quantitative Convenience Survey URL Sent by email 7 point scale
EFA and CFA with AMOS 40 etaiQ items

4 dimensions: website design (4), customer service (5), privacy/security (5) and atmospheric/experimental (3)

Ranges from 0.76 to 0.90
Face, Convergent, Discriminant

Kim, Jin and Swinney (2009) Respondents: 182 respondents (103 from university, 42 from mall and 37 from public library)
Country: USA
Age Group: 52.8% from 21-25 age group
Gender: 67% females
Top online retailers in US

Quantitative Convenience Offline survey 5 point scale CFA 14

4 dimensions: fulfillment/reliability (2), responsiveness (3), website design (3) and security/privacy (3).

Ranges from 0.58 to 0.86
Construct

Swaid and Wigand (2009) Respondents: 557 undergraduate and graduate college students
Country: USA
Age Group: 46% from 20 to 46 age group
Gender: 39% females
Online retail

Quantitative Convenience Survey URL Sent by email 7 point scale
EFA and CFA 28

6 dimensions: information quality (5), website usability (4), reliability (6), responsiveness (5), assurance (4) and personalization (3)

Ranges from 0.84 to 0.92
Convergent, Discriminant, External
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Respondents</th>
<th>Country</th>
<th>Age Group</th>
<th>Gender</th>
<th>Research Design</th>
<th>Data Collection Method</th>
<th>Analysis Method</th>
<th>Dimensions</th>
<th>Reliability/Validity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ding, Hu and Sheng (2011)</td>
<td>2011</td>
<td>302 students</td>
<td>USA</td>
<td>Between 19-57 years, mean age 28 years</td>
<td>47% females</td>
<td>Amazon Quantitative Convenience</td>
<td>Online survey through Amazon</td>
<td>EFA and CFA with LISREL</td>
<td>4 dimensions: efficiency (3), system availability (2), fulfillment (7), privacy (3)</td>
<td>Ranges from 0.72 to 0.86 Not Reported</td>
<td></td>
</tr>
<tr>
<td>Dai, Haried and Salam (2011)</td>
<td>2011</td>
<td>772</td>
<td>USA</td>
<td>76% from 18-25 age group</td>
<td>71.4% females</td>
<td>Electronic banking services, online purchases, online music buying services, and online entertainment services websites</td>
<td>Quantitative Random Online survey</td>
<td>SEM using SmartPLS 2.0</td>
<td>11 dimensions: accessibility (3), reliability (3), timeliness (2), service content quality (3), visual appearance (5), navigation (4), customized preview (2), service delivery quality (3), service enjoyment (5), service commitment (4) and loyalty (1)</td>
<td>Ranges from 0.83 to 0.99 Convergent, Discriminant</td>
<td></td>
</tr>
<tr>
<td>Zehir et al. (2014)</td>
<td>2014</td>
<td>645</td>
<td>Turkey</td>
<td>66.6% from 25-40 age group</td>
<td>53.2% females</td>
<td>10 most prominent internet retailers in Turkey</td>
<td>Quantitative Random Offline questionnaire through face to face interviews</td>
<td>EFA</td>
<td>4 dimensions: efficiency (7), system availability (2), fulfillment (7) and privacy (3)</td>
<td>Ranges from 0.76 to 0.86 Not Reported</td>
<td></td>
</tr>
</tbody>
</table>
5.2.1 Research Methods

There is noticeable heterogeneity in methodologies used by different studies, it includes qualitative (Elliot and Fowell, 2000; Francis, 2007; Kim et al., 2006; Trocchia and Janda, 2003; Yang et al., 2003), mixed (Cho and Park, 2001; Janda et al., 2002; Long and McMellon, 2004; Parasuraman et al., 2005; Szymanski and Hise, 2000; Wolfinbarger and Gilly, 2003; Yang and Jun, 2002) and quantitative approaches. Yang et al. (2003) used qualitative approach and did content analysis of 1078 consumer anecdotes related to online health product companies through ratingwonders.com and gomez.com to report 42 items under 14 dimensions: responsiveness (4), credibility (2), ease of use (6), reliability (7), convenience (3), communication (4), access (2), competence (2), courtesy (3), personalization (1), continuous improvement (3), collaboration (2), security/privacy (2) and aesthetics (1). Similarly Kim et al. (2006) performed content analysis of 111 women apparel retail websites to decipher 9 dimensions covering 81 items: efficiency (15), fulfillment (6), system availability (2), privacy (8), responsiveness (2), contact (2), personalization (18), information (7) and graphic style (21). Whereas Janda et al. (2002) employed mixed approach; in study 1 they performed 58 semi structured interviews to tap consumers feelings and perceptions regarding online shopping and in study 2 they administered offline survey and received usable entries from 446 internet users who made at least one purchase through internet in past 6 months and administered confirmatory factor analysis to get 5 dimensions: performance, access, security, sensation and information.

Qualitative research is advisable at the initial stage of studies. Few authors have used content analysis (Kim et al., 2006; Yang et al., 2003) or hermeneutic logic (Trocchia and Janda, 2003), but there are several other qualitative techniques which are rarely used; such as ethnomethodology, conversation analysis, blog and buzz mining and critical incident technique. ‘Ethno’ pertains to a people’s or member’s body of knowledge. Ethnomethodology is concerned with the experience of everyday life, while ‘bracketing’ questions of its objective causes or ‘true states’, for the sake of descriptive analysis (Moore, 2013). Ethnomethodology and conversation analysis are recommended for empirical investigation of technology use and system design at conceptual and fundamental level (Dourish and Button, 1998; Moore, 2013). In online scenario activity of people over virtual worlds, social media and their real life activity
can be captured through devices like camcorders, PDAs and mobile phones. In case of conversation analysis online discussions are useful (Poynter, 2010), whereas in blog and buzz mining, discourse of people posted over web are searched. Biggest advantage of this approach is its simplicity, words mentioned can be counted and emoticons can be enumerated (Poynter, 2010). Another qualitative method known as critical incident technique offers several benefits, first, it helps in development of context purely from respondent’s perspective in his or her own words (Edvardsson and Roos, 2001; Chell, 1998; Edvardsson, 1992). Second, as the respondents bring about their experiences in detail, information received is very accurate and unambiguous (Stauss and Weinlich, 1997), which yields thorough record of events (Grove and Fisk, 1997). Third, CIT is capable of giving excellent results during concept and hypothesis development phase (Walker and Truly, 1992). Finally, as CIT is culturally neutral method it’s most suitable for assessment of perception of customers from diverse cultures (Stauss and Mang, 1999).

5.2.2 Sampling method

A variety of sampling plans are used by researchers like, convenience sampling (Francis, 2007; Ha and Stoel, 2009; Kim et al., 2009; Long and McMellon, 2004; Swaid and Wigand, 2009), random sampling (Bauer et al., 2006; Dai et al., 2011; Gounaris et al., 2005; Janda et al., 2002; Kim and Stoel, 2004; Srinivasan et al., 2002; Yang and Jun, 2002; Zehir et al., 2014) and systematic sampling (Cheng et al., 2008). Parasuraman et al. (2005) initially used random sample of internet users but to achieve reasonable variance in data they established a quota-sampling plan. They asked one third respondents to evaluate their favorite sites; one third to evaluate their second favorite sites and another one third evaluate their third favorite sites. Very few studies used non students or actual online shopper. Janda et al. (2002) used respondent who have made atleast one internet purchase in last 6 months. Similarly respondents included by Parasuraman et al. (2005) used the internet at least 12 times during the past 3 months and made at least three purchases within that period. In certain studies rewards were distributed to respondents to elicit higher number of response; cash reward was given to respondents to complete the survey in two weeks’ time (Ding et al., 2011) or gifts such as iPod was drawn among online survey participants (Dai et al., 2011). Kim et al. (2009) also offered incentive to university students to fill the survey completely and sincerely. People are likely to finish the
survey accessed if incentive is offered to them (Göritz, 2006).

Studies under review had certain limitations, first, several studies used student as respondents (Choi et al., 2004; Elliot and Fowell, 2000; Swaid and Wigand, 2009). In certain cases student respondents in study weren’t even actual purchaser of product online, for instance Yoo and Donthu (2001) distributed questionnaire to student in three marketing classes, they were asked to visit and interact with three Internet shopping sites of their own choice within two days and were asked to rate 54 descriptions for each site. Similarly Lee and Lin (2005) induced two tasks to students, first to register with online bookstore, select book and put in shopping cart and second task was to fill out delivery and payment data. Ha and Stoel (2009) mentioned in their limitations that, using college students and convenient sampling process hinders the generalization and applicability of findings or the measurement scale developed to older online consumers.

Secondly, almost half of the studies under review used US respondents. Malhotra et al. (2005) while examining the differences in perception of service quality dimensions between developed and developing economies found that results from USA were systematically and significantly different from those for India and the Philippines. Furrer et al. (2000) further confirmed that across cultural groups, perceptions of service quality vary. An important role is played by culture in determining how customers expect services delivery (Constanza, 2001), because customers with different value and life style perceive service quality in different way (Sarjono and Budi, 2010).

Third, few studies used too less or too high percentage of female respondents in their sample. For example, sample taken by Szymanski and Hise (2000) included 22% female respondents. Francis and White (2002) had only 18% females in their usable sample. On the other hand Kim and Stoel (2004) took 100% female respondent. Study conducted by Kim et al. (2009) had 67% female respondents. Similarly Dai et al. (2011) took high percentage of female respondents i.e. 71.4% in their usable sample. In online commerce, gender is significant moderating variable (Zhang and Prybutok, 2003), taking too high or too low percentage of female respondents can have significant influence on generalization of final dimensions. Researchers established that higher level of risk is perceived by females while shopping online and they
hesitate to make purchase online than males (Bae and Lee, 2011; Garbarino and Strahilevitz, 2004). Compared to males, females search for more information, including customer reviews (Park et al., 2009) and females prefer shopping offline (Davis et al., 2009).

Fourth, many researchers used a sample comprising younger age group. Dai et al. (2011) themselves mentioned in their limitations that generalizability of their scale is limited by the surveyed sample which is dominated by the 18-25 age group (76%). Other studies also reported sample comprising younger respondents, like, 71.2% respondents in 20-29 age group (Cho and Park, 2001), 68.4% respondents with less than 25 years of age (Lee and Lin, 2005), respondents with average age of 25 years (Collier and Bienstock, 2006) and respondents with mean age 26 years (Ha and Stoel, 2009).

Finally, issue of inadequate sample size arises. For example a low sample size of 171 respondents comprising MBA and undergraduate students, members of a local chapter of ISM and ASQC was selected by Cai & Jun (2003). Elliot and Fowell (2000) also used low sample size of 35 postgraduate students enrolled in a Master of Commerce course at an Australian university. Kim et al. (2009) processed 182 usable respondents’ questionnaires; i.e. 103 from the universities, 42 from the local malls, and 37 from the public library. As per Tabacnik and Fidell (1996) 300 cases is good general rule for thumb. Another guide for good sample size suggest : 50 as very poor; 100 as poor, 200 as fair, 300 as good, 500 as very good and 1000 as excellent (Comrey and Lee, 1992; Tabacnik and Fidell, 1996; Vanvoorhis and Morgan, 2007). Ha and Stoel (2009) mentioned under limitations of their study about inadequacy of their sample size to examine which specific e-shopping quality factor(s) affect ease of use, trust, and shopping enjoyment perceptions. Succeeding studies should include bigger and diverse sample size while developing new scales.

### 5.2.3 Survey administration

Both offline and online methods have been deployed by researchers to collect primary data for their studies. In qualitative studies, semi structured interviews employing technique derived from existential-phenomenological paradigm (Trochcia and Janda, 2003) and cumulative in depth analysis of formal report of transactions (Elliot and Fowell, 2000) have been used. In mixed approach, online questionnaire and offline
focus group (Wolfinbarger and Gilly, 2003) and combination of online and offline questionnaire (Cho and Park, 2001) was used. In online approach many researchers created website surveys and sent email with embedded link to the URL containing questionnaire (Francis and White, 2002; Ha and Stoel, 2009; Srinivasan et al., 2002; Swaid and Wigand, 2009). Few researchers created mail surveys and sent e-mail containing survey instrument as an attachment (Gounaris et al., 2005; Yang and Jun, 2002). Significant number of researchers administered offline surveys (Cai and Jun, 2003; Janda et al., 2002; Yoo and Donthu, 2001). Kim et al. (2009) distributed offline questionnaires and collected 182 usable data from universities, local malls and from the public library. Similarly, Collier and Bienstock (2006) collected their data from 266 college students of southeastern university by administering offline questionnaire.

Using online survey to study online shoppers is more coherent in context of research. For reaching and identifying online shoppers online methodology is more efficient (Szymanski and Hise, 2000) and researchers can hugely benefit from web based surveys. A survey sent via email is delivered faster than a survey sent by ordinary mail, but a web survey is even better as it’s always available online. Moreover data entry cost are low in case of web surveys, infact web surveys outperforms mail surveys in terms of data entry costs because email surveys often require additional editing before being fed in final database (Fricker and Schonlau, 2002). Web based surveys have been also recommended because they are flexible and inexpensive (Krosnick, 2010), offer convenience to participants and easy availability/recruitment of respondent (Van Selm and Jankowski, 2006). Researchers should mention logic and advantage for choosing a particular mode for administering survey instrument whether online, offline or mixed.

5.2.4 Item Generation

Being new arena of research, researcher used both inductive methods, based on literature review (Choi et al., 2004; Collier and Bienstock, 2006; Dai et al., 2011; Jun et al., 2004; Kim and Stoel, 2004; Lee and Lin, 2005; Swaid and Wigand, 2009; Szymanski and Hise, 2000) and deductive methods, based on exploratory studies, such as, semi-structured interviews (Janda et al., 2002), focus group (Parasuraman et al., 2005; Wolfinbarger and Gilly, 2003), content analysis (Kim et al., 2006; Yang et al., 2003) or hermeneutic logic (Trocchia and Janda, 2003). Elliot and Fowell (2000)
did in depth analysis of formal report of transactions. Long and McMellon (2004) examined consumer comments about services at internet sites on which customers have previously shopped and generated their survey pool. Srinivasan et al. (2002) generated initial pool of items by conducting in-depth discussions with thirty online shoppers, site administrators, and information technology professionals, which was further evaluated by six academic researchers for its face validity. Bauer et al. (2006) generated initial pool of items through qualitative interviewing done by marketing research assistants with 30 online shoppers. Some authors used mixed methodology of literature review followed by semi-structured interviews, for example, Cho and Park (2001) identified 10 factor on the basis of literature review and several interviews with researchers in marketing and MIS and managers related with online shopping business. Similar methodology of deploying literature review and semi-structured interviews with experts/online shoppers was adopted by few other researchers too (Cai and Jun, 2003; Gounaris et al., 2005; Yang and Jun, 2002).

This review identified several limitations in studies, for instance, item generation solely based on literature review will lead to inclusion of already deciphered dimension therefore identification of novel dimension will be hindered. Secondly, Items derived through exploratory factor analysis are based on factor loadings of each factor, which in term is dependent on mass consensus, judgment and feedback. Thirdly, there is no consensus over the factors and their definitions of service quality in online retail. Finally, there is no obvious definition of service quality, Collier and Bienstock (2006) argued that internet retailing quality is multidimensional and more than just web site interactivity or process quality; it comprises outcome and recovery quality too. As per Parasuraman et al. (2005) online retail service quality is “... the extent to which a web site facilitates efficient and effective shopping, purchasing and delivery”. Kim et al. (2009) included online transaction and offline fulfillment aspects and mentioned that e-tail quality is measured “...from the beginning to the end of transaction, including information search, website navigation, ordering, interactions, delivery and satisfaction with the ordered product”. Yoo and Donthu (2001) emphasized on consumer-website interaction. Ha and Stoel (2009) mentioned that online buyers have service and experiential needs rather than just trust/safety and information needs.
5.2.5 Purification of items

Many researchers used 0.5 cut-off for loading scores and deleted items with primary factor loadings less than 0.5 (Cai and Jun, 2003; Francis and White, 2002; Jun et al., 2004; Long and McMellon, 2004). Ding et al. (2011) adopted a cut-off of 0.70. Yoo & Donthu (2001) first deleted items with factor loadings less than 0.40, and subsequently dropped items with communality less than 0.50. Similarly in item to total correlation, it was observed that cut-off score also vary in different research studies, for instance Janda et al. (2002) dropped items where item-to-total correlations is less than 0.3, whereas Wolfinbarger and Gilly (2003) and Choi et al. (2004) dropped items where item-to-total correlations is less than 0.4. Wolfinbarger and Gilly (2003) adopted more stringent approach and retained only those items; (1) that loaded 0.50 or more on a factor, (2) did not load more than 0.50 on two factors, and (3) if the reliability analysis indicated an item to total correlation of more than 0.40. Similarly, Ha and Stoel (2009) eliminated items that showed poor psychometric properties (<0.30 communality, <0.40 factor loading, or >0.40 cross-loading)

5.2.6 Dimensionality Analysis

Researchers use exploratory factor analysis (EFA) or confirmatory factor analysis (CFA) to estimate or assess dimensionality of the scale. Many researchers used exploratory factor analysis (Cai and Jun, 2003; Cho and Park, 2001; Kim and Stoel, 2004; Szymanski and Hise, 2000; Yang and Jun, 2002; Zehir et al., 2014) or confirmatory factor analysis (Bauer et al., 2006a; Cheng et al., 2008; Collier and Bienstock, 2006; Ding et al., 2011; Gounaris et al., 2005; Ha and Stoel, 2009; Janda et al., 2002; Kim et al., 2009; Lee and Lin, 2005; Parasuraman et al., 2005; Srinivasan et al., 2002; Swaid and Wigand, 2009; Wolfinbarger and Gilly, 2003; Yoo and Donthu, 2001)

In case of exploratory factor analysis (EFA) there is no pre-hypothesized factor structure and most suitable solution based on theoretical interpretability is chosen among various computed solutions. Whereas in case of confirmatory factor analysis (CFA), a pre-hypothesized factor structure or model is present and its tested for its acceptance and rejection (Curran, 1994). Hence, confirmatory factor analysis (CFA) is hypothesis backed version of exploratory factor analysis which is based on measurement theory (Bollen, 1989). Many researchers discussed about limitations of
EFA, for instance, Bagozzi and Phillips (1982) pointed out that uncorrelated traits or factors are assumed in common factor analysis with orthogonal rotation, when it’s applied on data with correlated factors, distorted factor loadings and incorrect conclusions regarding the number of factors can be produced. Segars and Grover (1993) indicated that, “...when each measure is a function of all trait factors, the estimates obtained for factor loadings are not unique, i.e., the solution obtained is only one of infinite possible number of solutions”. Secondly, to determine convergent and discriminant validity, no explicit test statistics is provided. Third, each indicator is expressed as a function of all trait factors, because the model searches for factors in an exploratory manner (Bagozzi and Phillips, 1982). Lahey et al. (2012) highlighted certain advantages of CFA over EFA; for example, multiple aspects of hypothesized models can be statistically tested in CFA. Moreover, if inadequacy is found in hypothesized model, we get detailed information about source and degree of misfit.

5.2.7 Reliability and validity assessment

If an instrument is able to measure consistently, its termed as reliable. Cronbach (1951) developed alpha (expressed as a number between 0 and 1) in 1951 to furnish a measure of the internal consistency of a test or scale. Most of the papers under review used and indicated good reliability in terms cronbach α coefficient. Parasuraman et al. (2005) reports 4 dimensions with cronbach alpha ranging from 0.83 to 0.94. Cheng et al. (2008) report 5 dimensions with cronbach alpha ranging from 0.88 to 0.91. Swaid and Wigand (2009) found 6 dimensions with cronbach alpha ranging from 0.84 to 0.92. Dai et al. (2011) report 11 dimensions with cronbach alpha ranging from 0.83 to 0.99. But there were few studies under review in which cronbach α coefficient values were below recommended level, for instance, Both Yang and Jun (2002) and Jun et al. (2004) reported reliability coefficient value for “credibility” dimension at just 0.59. Similarly “purchasing process” and “responsiveness” dimensions are reported at very low cronbach vales of 0.58 and 0.51 respectively by Long and McMellon (2004). Kim et al. (2009) reported “fulfillment/reliability” dimension at low cronbach vales of 0.58.

Reliability is not dependent on validity, but validity is dependent on reliability of an instrument. the extent to which an instrument measures what it is intended to measure is represented by validity (Tavakol and Dennick, 2011). Validity can be defined as
how well a construct is if translated into functioning or operating reality. Six validity types need to be cumulated to establish validity. These six validity types are classified under two categories: Translation validity (it includes face validity and content validity) and criterion validity (it includes predictive validity, concurrent validity, convergent and discriminant validity) (Drost, 2004).

Translation validity is degree to which constructs are precisely translated and operationalized through subjective judgment (face validity) or by canvassing contents of domain (content validity). Face validity is seen as weak form of construct validity, as it includes subjective judgment on operationalization of a construct. Few researchers under this review deciphered face validity of their scales (Ha and Stoel, 2009; Parasuraman et al., 2005; Yoo and Donthu, 2001). Srinivasan et al. (2002) deployed six academic researchers to evaluate face validity of pool of items generated. Another type of validity is content validity, which Bollen (1989) defined as “...a qualitative type of validity where the domain of the concept is made clear and the analyst judges whether the measures fully represent the domain”. Ding et al. (2011) ensured content validity of their initial items via card shuffling assessment with five business faculty members and a pretest with 75 students. Cai and Jun (2003) and Jun et al. (2004) asked four academicians from fields related to service quality, e-commerce, and information technology to review their questionnaire draft for content validity. Gounaris et al. (2005), Swaid and Wigand (2009), Collier and Bienstock (2006) and Lee and Lin (2005) also established content validity.

Criterion related validity is the degree of correspondence (usually measured by correlation) between one or more external referents/criteria and test measure. Campbell and Fiske (1959) suggested that construct validity can be established through convergent and discriminant validity. To establish convergent validity, Choi et al. (2004) computed item-to-total correlation scores and suggested rejection of correlations less than 0.4. Some researchers calculated average variance (AVE) extracted by each factor and accepted the case. If AVE is greater than 0.50 of the total variance (Gounaris et al., 2005; Ha and Stoel, 2009). Janda et al. (2002) and Swaid and Wigand (2009) supported convergent validity through statistically significant t-values different from zero at p < .001. Other researchers also reported convergent validity of their scales (Bauer et al., 2006b; Cheng et al., 2008; Yoo and Donthu, 2001).
Discriminant validity is defined as “degree to which two conceptually similar constructs are distinct” (Hair et al., 2009). Most of the authors established discriminant validity through AVE for each construct, which was greater than the squared correlation between that construct and any other construct in the model (Bauer et al., 2006a; Cheng et al., 2008; Gounaris et al., 2005; Ha and Stoel, 2009). Janda et al. (2002) and Choi et al. (2004) indicated significant chi-square values to establish discriminant validity. Other authors like Swaid and Wigand (2009) and Kim and Stoel (2004) also established discriminant validity of their scales. Cai and Jun (2003) and Jun et al. (2004) satisfied convergent and discriminant validity conditions as all items of a scale strongly loaded on one factor and weakly on all the other factors.

Predictive/nomological validity is refered as ability of a test to measure some outcome in future (Drost, 2004). Different authors observed impact of service quality, on different conceptually related construct, like, level of consumer purchasing intentions (Cho and Park, 2001), intention to recommend and the overall quality of the site (Long and McMellon, 2004), overall service quality and satisfaction (Jun et al., 2004), website quality and overall satisfaction (Kim and Stoel, 2004), e-satisfaction and e-trust (Kim et al., 2009), customer's perceived value and satisfaction (Bauer et al., 2006a), e-shopping quality as an antecedent to beliefs about online shopping (Ha and Stoel, 2009), customer satisfaction and loyalty (Ding et al., 2011). Nomological validity is also reported by Janda et al. (2002), Yoo and Donthu (2001) and Wolfinbarger and Gilly (2003). Ding et al. (2011) indicated external validity. External validity of a study or relationship implies generalizing to other persons, settings, and times (Drost, 2004).

It was observed during review that psychometric properties of scales in few research studies are not established. Long and McMellon (2004) just mentioned predictive validity, Srinivasan et al. (2002) mentioned about face validity only and Collier and Bienstock (2006) established content validity only and reported that “…construct validity of the formative indicators was not tested because traditional methods of assessing construct validity are not appropriate for composite variables with formative indicators”. Szymanski and Hise (2000) and Zehir et al. (2014) didn’t reported any validity. Moreover few studies being qualitative in nature didn’t establish any validity of their scales (Elliot and Fowell, 2000; Francis, 2007; Kim et al., 2006; Trocchia and
Janda, 2003; Yang et al., 2003). But there are also few studies which established convergent, discriminant and predictive validity (Bauer et al., 2006a; Gounaris et al., 2005; Parasuraman et al., 2005; Wolfinbarger and Gilly, 2003).

5.3 Observations regarding dimensionality of online service quality construct

On the basis of literature review, certain observations have been derived and discussed below.

5.3.1 Multidimensionality

First, number of dimensions reported in the studies under review ranges from 2 (Choi et al., 2004) to 14 (Yang et al., 2004). These dimensions vary across various studies, and there is no consensus.

5.3.2 Most consistent/ cited dimensions

Second, out of different dimensions reported by researchers, few dimensions like, security/privacy, web site design, reliability, responsiveness and information have been consistently cited. Top among them is security/privacy, which points security of credit card payments and privacy of shared information (Kim et al., 2009; Wolfinbarger and Gilly, 2003), security of personal and financial information (Yoo and Donthu, 2001), degree to which the site is safe and protects customer information (Parasuraman et al., 2005). There is positive effect of security/privacy on e-trust (Kim et al., 2009). Since masses are getting habitual to online shopping, customers are not too cautious about privacy and security (Yang et al., 2003). Privacy and security also includes providing customers visual signals so that they know that secure connection is being achieved (Collier and Bienstock, 2006). Website design is unique facets of online service quality (Cai and Jun, 2003) and it has all elements of the consumer’s experience which includes navigation, information search, order processing, appropriate personalization and product selection (Wolfinbarger and Gilly, 2003). It should be readable, visually appealing and tidy (Lee and Lin, 2005). For internet retailing categories it should have “fast download” and “visual appeal” capabilities (Francis, 2007). Reliability is defined as a performance and dependability dimension (Long and McMellon, 2004). It is related to failure to inform by e-mail or call customer by a promised time, uncertainty of delivering the right products, and
apprehensions, worry concerning incorrect charges (Yang and Jun, 2002). As per Wolfinbarger & Gilly (2003), fulfillment/reliability is (a) what customers receive what they thought they ordered because of accurate display and description of a product (b) right product is delivered within the time frame promised. Reliability is strong predictor for overall quality and customer satisfaction (Bauer et al., 2006a). Responsiveness captures consumers’ concerns on practical level, how the web site will interact with them (Long and McMellon, 2004) and measures ability of an online retailer to give appropriate problem solving information to customers, mechanisms for handling returns and providing online guarantees (Kim et al., 2006). Responsiveness received highest “mentions” in research conducted by Yang et al. (2003). Responsiveness positively affects overall service quality and customer satisfaction (Lee and Lin, 2005), negatively influence the propensity to switch and give negative word-of-mouth and significantly affects “complaining behavior” (Swaid and Wigand, 2009). Information is customer perceptions of usefulness and quality of website content (Swaid and Wigand, 2009). Information quantity and credibility are reported as important elements of online retail service quality, where quantity is the ability to access relevant information in a purchase situation and credibility is defined by the degree to which consumers trust the information provided by an online retailer (Janda et al., 2002). Online shoppers largely depend on adequate information available on website to make purchase decisions (Kim et al., 2006).

5.3.3 Analogy with traditional service quality dimensions

Third, there are dimensions which are analogous to traditional service quality dimensions. Reliability is defined as, ability to perform the promised service dependably and accurately (Parasuraman et al., 1988), it has been reported by various researchers as important dimension in their online service quality scales too (Bauer et al., 2006b; Dai et al., 2011; Lee and Lin, 2005; Long and McMellon, 2004; Swaid and Wigand, 2009; Wolfinbarger and Gilly, 2003; Yang and Jun, 2002; Yang et al., 2003). Similarly, traditionally responsiveness is defined as willingness to help customers and provide prompt services (Parasuraman et al., 1988); it is also mentioned in several studies under review (Bauer et al., 2006b; Kim et al., 2009, 2006; Kim and Stoel, 2004; Lee and Lin, 2005; Long and McMellon, 2004; Swaid and Wigand, 2009; Yang et al., 2003). Empathy, which is defined as caring, individualized attention the firm provides its customers (Parasuraman et al., 1988), doesn’t seem relevant in context of
online environment but number of researchers have reported that certain dimensions becomes similar to empathy in online context, like communication, understanding the individual (Bauer et al., 2006b), access (Jun et al., 2004), availability of various communication tools, such as e-mail, chat room, bulletin board, and “frequently asked questions”, and multiple-language options (Cai and Jun, 2003), interactive fairness (Collier and Bienstock, 2006), personalization (Kim et al., 2006). Assurance is knowledge and courtesy of employees and their ability to inspire trust and confidence (Parasuraman et al., 1988). Researchers have reported similar dimensions to assurance in online context, like online security (safety of transaction), privacy (sensitive information) and credibility (trustworthiness, believability and honesty) (Cai and Jun, 2003; Jun et al., 2004; Long and McMellon, 2004). Another traditional SERVQUAL dimension is tangibility i.e. appearance of physical facilities, equipment, and appearance of personnel (Parasuraman et al., 1988). Long & McMellon (2004) reported that tangibility is the most important component in their online service quality scale, and it is reflected in virtual evidence of service such as ease of use, navigation and presentation of product over website. But contradicting above viewpoint, Jun et al., (2004) deleted tangibility dimension, suggesting that it’s not directly related to online service quality. Parasuraman et al. (2005) mentioned in their literature review how Gefen (2002) adapted “tangibility” dimension of traditional SERVQUAL scale to “appearance of the Web site”. Similarly Bauer et al., (2006) in their literature review mentioned how Vidgen & Barnes (2001) reported aesthetics and navigation equivalent to tangibles.

5.3.4 Multilevel structure of online service quality

Few researchers have reported that, apart for being multidimensional in nature online service quality is multilevel in nature. Study by Choi et al. (2004) focused on the two-factor Nordic model which examines the relationship between functional and technical web service quality. Framework developed by Collier & Bienstock (2006) consists of 11 first-order dimensions for measuring e-service quality and three second-order dimensions of process quality, outcome quality, and recovery. Dai et al. (2011) also reported that service content quality and service delivery quality are important antecedents of consumers’ service enjoyment, and they further affect consumer’s commitment and loyalty relation to services in internet mediated environment. Parasuraman et al. (2005) created subscale of E-S-QUAL called E-
RecS-QUAL having items focusing on handling service problems and inquiries, and being salient only to customers who had non routine encounters with the sites.