

Full Length Research Paper

Impact of online service quality on customer satisfaction in banking sector of Pakistan

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Accepted 16 June, 2010

This study formulated and tested a model for customer satisfaction based on service quality in e-banking. The research team developed the model on the basis of theoretical background. The research team used a structured questionnaire in order to collect data from e-banking customers of private sector banks in Pakistan using the convenience sampling method. The sample size of the study was 264. The research team used SPSS 15.0 to examine the variables. The research team also used virtual partial least squares (VPLS) 1.04 for model testing in a single run. The findings validated the relationships between the variables in the model. The outcome of the study was that identified service quality dimensions had a significant impact on customer satisfaction in e-banking. Improvement in web service quality is recommended for achievement of customer satisfaction in banking sector.

Key words: Online customer satisfaction, e-banking service quality, online service quality.

INTRODUCTION

Service sector witnessed a rapid shift, primarily due to the pressure of forces affecting the context. The major force behind this revolution is technology, which has brought in a level playing field for businesses by eliminating geographical, regulatory, and industrial barriers. Also with the ongoing creation of new products and services, opportunities in the market are increasing, which further adds to the significance of developing more information and customer-oriented business and management processes. Electronic payment systems and online banking are opening doors of progression. As a result of the advancement in these technologies a more efficient banking system is expected.

Technology enables institutions to deliver banking products and services utilizing non-traditional delivery channels, to consumers in a more convenient and economical manner without compromising the existing level of service. Since the usage of internet has been multiplying exponentially and has spread in almost all walks of life. It has brought in several business opportunities for all type of users.

Awad (2000) explained that four electronic commerce activities Internet users perform which are: (1) shopping, (2) banking, (3) investing, and (4) online electronic payment for Internet services. All these activities require a banking relationship. Immense growth of the Internet is changing the way businesses interact with consumers. SERVQUAL developed by Zeithaml (1988) is one of the more widely used instruments in order to assess customer satisfaction.

The radical growth in communication technology has allowed companies to introduce superior services. Internet banking is another complete new domain of service that adds value to existing portfolio by substituting or complementing personal interactions with service personal through technology (Jun and Cai, 2001). Based on these developments, it is significant for researchers to work on evaluations of technology-based services by consumer (Parasuraman and Grewal, 2000). Mols (2000) suggested, that internet based home banking might bring a radical change in the way banks maintain their relationships.

Many researches have kept the focus of attention upon the close relationship among the service quality and satisfaction of the customer. Internet banking is a dynamic and modernized field so the dimensions of conventional service quality cannot directly apply upon e-banking.

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Therefore various dimensions have been adopted in previously conducted studies to measure electronic service quality. The most commonly used definition of a site's service quality or e-SQ is "the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery of product and services" (Siu and Mou, 2003; Zeithaml et al., 2002; Yang and Fang 2004; Bitner et al., 1990; Parasuraman et al., 1985; Liu and Arnett, 2000).

Also e-service quality was rated as the second most important factor, involving empathy, quick response, follow-up and assurance (Awad, 2000).

Numerous studies have identified important dimensions of service quality in the conventional banking but gap remains in relatively little investigated literature on service quality attributes in the internet banking industry and its impact on customer satisfaction (Jun and Cai, 2001). Therefore, further study is desired in order to understand the dimensions of e-service quality and all these studies should also to be carried out for various modes of electronic transactions (Zeithaml et al., 2002). Also fewer studies are available examining the same in Pakistani Banking environment.

LITERATURE REVIEW

Customer satisfaction has widely been addressed in literature; early studies upon the concepts of satisfaction have traditionally defined satisfaction as an evaluative judgment prior to making a choice, about any particular purchase decision (Oliver, 1980; Churchill and Surprenant, 1982). Mostly, researchers established satisfaction as an attitude or an evaluation formed by the customer by making a comparison in their pre-purchase expectation to their subjective perceptions of actual performance (Oliver, 1980).

Studying formation of satisfaction in marketing literature (Churchill and Surprenant, 1982; Oliver, 1980) and in current studies upon information system (McKinney et al., 2002), the disconfirmation theory primarily serves as the basis for satisfaction models. This theory suggests that satisfaction is established by the gap between supposed performance and cognitive standards like wishes and expectation (Liu and Khalifa, 2003).

Customer expectation was defined as a customer's belief about a product before using it (McKinney et al., 2002). Theoretically expectations were taken as perceived experience by consumers regarding an approaching transaction or deal. Perceived performance was taken as customer's perception of how product actually imparted value fulfilling their needs, wants and desire (Cadotte et al., 1987).

Consumer's judgment about an entity's overall superiority or dominance was defined as its perceived quality (Zeithaml, 1988). Disconfirmation was defined as consumer skewed judgments based upon comparison of the potential and the perception of real value delivered (McKinney et al., 2002; Spreng et al., 1996).

Oliver (1980) briefed about the process following expectancy-disconfirmation framework to the satisfaction judgments. Several authors developed various models demonstrating customer satisfaction and its antecedents in online context. Ho and Wu (1999) identified five determinants of customer satisfaction regarding internet transactions. These were logistic support, technical characteristics, features of information, presentation of home page and product personality. In past few years Service quality has been a matter of great value for both professionals and academia (Parasuraman et al., 1985).

The justification of considering service quality as prime interest factor by professionals lied in the principle that this had a significant impact upon the firm's bottom line performance. Among academics the satisfaction construct was accepted as being distinctive and recognized as an independent factor of service quality (Oliver, 1980). Complexity increased as, mostly, professionals interchanged these two terms that is, service quality and customer satisfaction. Experts believed that service quality was an attitude based upon a long-term general assessment of any performance. On the other side, customer satisfaction was perceived as a short-term measure (Hoffman and Bateson, 1997).

Service quality definition revealed it as a resultant of the evaluation that a customer made among expectations about a service and perception of the way the service actually delivered value (Parasuraman et al., 1985, 1988). Also, McKinney et al. (2002) defined web system quality as the customer's perception of a web site's ability to retrieve and deliver information. Likewise, web information quality was established as the customer's perceived quality of information presented online.

As online modes of transaction are convenient, interactive, cost efficient and can be highly customized, so were assumed to be better to those delivered utilizing regular modes. However, understanding the factors that affected online customer satisfaction was limited (Liu and Khalifa, 2003).

In a study, many online customers still chose pure internet-based suppliers with basic customer services yet demanded various services available through conventional channels (Yang and Fang, 2004). Various researches have been carried out In order to identify conventional service quality dimensions that may significantly impact upon quality assessments (Parasuraman et al., 1985, 1988; Pitt et al., 1995; Zeithaml et al., 1985).

In order to specifically evaluate and progress upon customer perceived service quality, it's important to identify the determinants of service quality (Johnston, 1997). Based upon available literature, this study identified six service quality dimensions based upon the past studies (Zeithaml et al., 2002). Different other authors (Jun and Cai, 2001; Yang and Fang, 2004; Liu and Arnett, 2000) mentioned the similar dimensions of service quality. *Efficiency* refers to the ability of the customer to get to the website, find their most wanted product/information and conveniently logout with nominal effort (Jun and Cai,

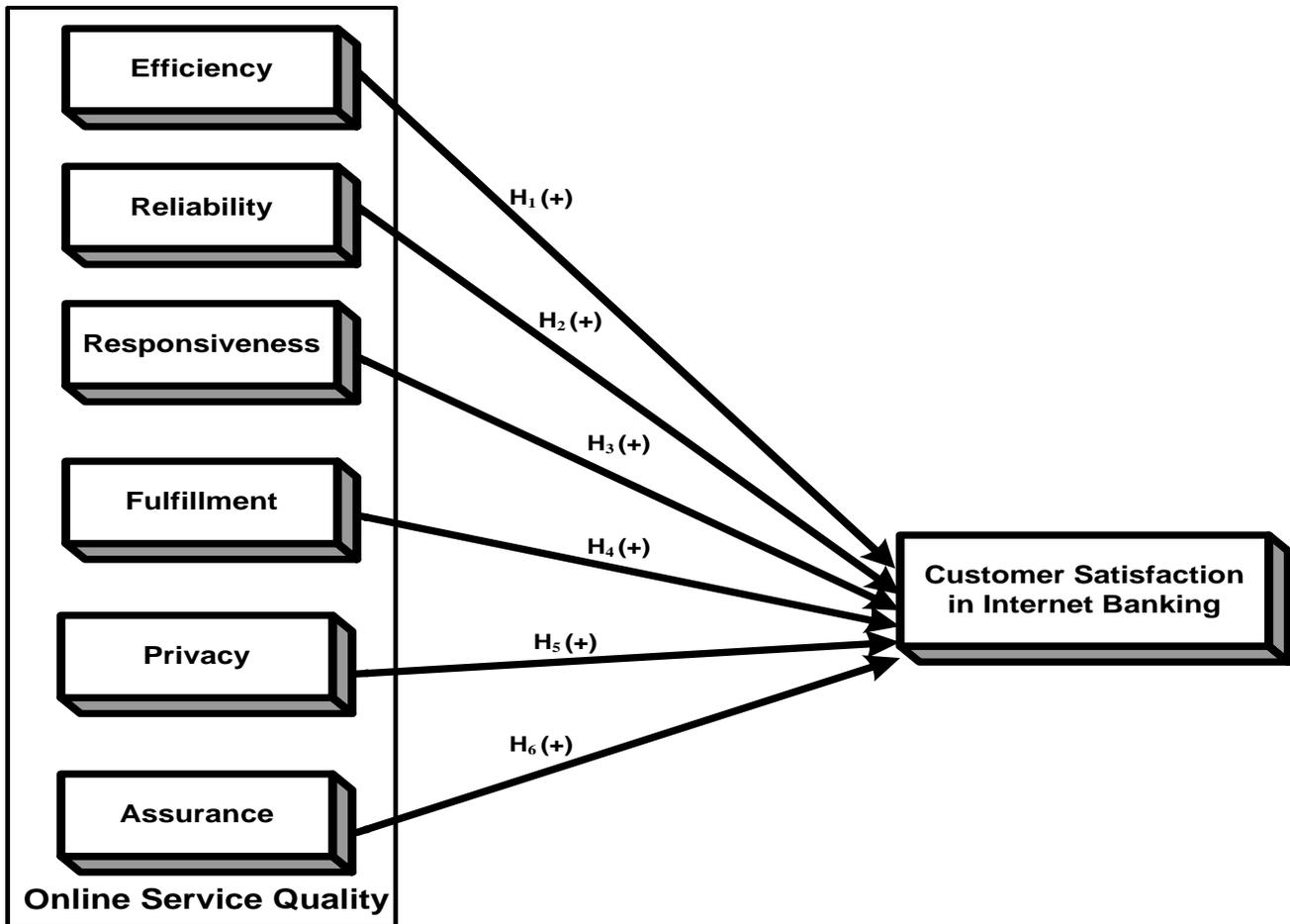


Figure 1. Conceptual model and path diagram.

2001; Saha and Zhao, 2005).

Reliability involves dependability and uniformity in performance. It means the firm honors the commitments it makes. Specifically, billing accuracy, proper record maintenance and delivering the service within acceptable time limit describes the reliability of online services (Saha and Zhao, 2005).

Responsiveness concerns the willingness or eagerness of employees for service provision. It involves turn around time of service actions like timely dispatch of a receipt or quickly calling back the customer (Zethaml et al., 2002).

Fulfillment comprises of making up to the service commitments, having enough product in stock and making the product available within committed time (Saha and Zhao, 2005).

Privacy dimension comprises the guarantee that the record showing shopping activities and security of credit card/account information is not shared (Yang and Fang 2004; Saha and Zhao, 2005).

Assurance is a set of courtesy and knowledge of employees along their ability to instill confidence. The assurance dimension is taken from an integrated

framework comprising behavioral intentions upon service quality, customer value and customer satisfaction (Wang and Huarng, 2002).

Proposed model

The proposed conceptual model based on review of literature and theoretical background is given in Figure 1.

Hypotheses

The research team came up with the following hypothesis based on the literature review:

H₁: Efficiency of Online Service Quality leads to customer satisfaction in internet banking.

H₂: Reliability of Online Service Quality leads to customer satisfaction in internet banking.

H₃: Responsiveness of Online Service Quality leads to customer satisfaction in internet banking.

Table 1. Hypothesized Relationships and Theoretical Support.

Hypothesized relationships	Theoretical Support
H ₁ : Efficiency->Customer Satisfaction	(Zeithaml et al., 2002)
H ₂ : Reliability->Customer Satisfaction	(Zeithaml et al., 2002; McKinney et al., 2002)
H ₃ : Responsiveness->Customer Satisfaction	(Zeithaml et al., 2002; Parasuraman et al., 1988; Zeithaml et al., 1985)
H ₄ : Fulfillment->Customer Satisfaction	Zeithaml et al (2002)
H ₅ : Privacy->Customer Satisfaction	(Zeithaml et al., 2002; Zeithaml et al., 1985)
H ₆ : Privacy->Customer Satisfaction	(Zeithaml et al., 2002; Zeithaml et., 1985)
H ₆ : Assurance->Customer Satisfaction	(Yang and Fang, 2004)

H₄: Fulfillment of Online Service Quality leads to customer satisfaction in internet banking.

H₅: Privacy of Online Service Quality leads to customer satisfaction in internet banking.

H₆: Assurance of Online Service Quality leads to customer satisfaction in internet banking.

Table 1 reveals the hypothesized relationships of the study and the theoretical support.

METHODOLOGY

This study is descriptive in nature and is conducted to test the hypotheses regarding service quality measurements leading to customer satisfaction in online banking.

Pilot study

After in-depth discussion with 30 online banking customers, a pilot test was conducted. The research team randomly distributed questionnaires among thirty online banking users. Respondents were openly asked to identify any ambiguity or potential source of error either in the format or wordings of the questions. Four academic researchers then evaluated all the items for their face validity and reliability. The Instrument was refined by modifying a few items based on their feedback.

Sample

The sample size constituted of Two hundred and sixty four respondents who were the employees of various private sector banks of the country. Since, e-banking is at an evolutionary stage in Pakistan and it was difficult to find people utilizing e-banking facilities, convenience sampling method was therefore used for data collection. The sample included both male and female respondents with the age bracket of 18 to 40 and above.

Instrument and measures

The research team distributed questionnaires among different e-banking customers in Lahore, Rawalpindi/Islamabad and Karachi. Motive was to gauge the service quality constructs impact upon the respondent's satisfaction as internet banking customer. This study measured the first five constructs (efficiency, reliability, responsiveness, fulfillment and privacy) of service quality by the scale used by Zeithaml et al. (2002). Assurance was measured by the scale used

by Yang and Fang (2004). This study used five point Likert scale to measure all the constructs.

The research team used SPSS 15.0 and visual partial least squares (VPLS) 1.02 for data analysis and computing the composite reliability and average variance extracted.

Procedure

The research team used self administered survey questionnaires in order to collect data. The respondents were briefed about the required data and objectives of the study. Each respondent filled only one questionnaire. It was difficult to collect data from a large number of respondents based upon lack of resources, imitated research time and budget constraints.

RESULTS AND ANALYSES

Table 2 reveals information about gender and occupation of the respondents. In order to confirm the consistency and construct validity of the measures, the research team used VPLS to compute composite reliability and average variance extracted of the constructs of the model. Table 3 reveals the coefficient of composite reliability and AVE (average variance extracted) of the constructs of the study.

The value of coefficients of composite reliability was more than 0.7 for all the constructs meeting the minimum benchmark as prescribed in past studies (Kim and Malhotra, 2005; Kifle et al., 2007; Koufteros, 1999; Rodriguez et al., 2007; Diamantopoulos and Siguaw, 2000). The value of AVE was more than 0.5 for five constructs meeting the benchmark as prescribed by Bagozzi, and Philips (1991), Pavlou and Gefen (2004) and Rodriguez et al., (2007). The value of AVE of Two constructs, such as Reliability and Privacy, was between 0.4 and 0.5 meeting the minimum value recommended by Diamantopoulos and Siguaw (2000).

Table 4 reveals the comparison of square root of AVE value and the inter-variable correlation. The square root of AVE for all the constructs was greater than the respective inter-variable correlation which confirmed the convergent and discriminant validity of the variables of the model.

Table 5 reveals the factor structure matrix of loadings

Table 2. Gender and Occupation of Respondents.

Variable	Category	Frequency	Percent
Gender	Male	244	84.4
	Female	45	15.6
Occupation	Entrepreneur	103	35.6
	House Wife / Retired	48	16.6
	Services	81	28
	Public Servant	57	19.7

Source: Field data

Table 3. Reliability statistics of scales.

Construct	Composite reliability	Average variance extracted (AVE)
Efficiency	0.87	0.54
Reliability	0.78	0.48
Responsiveness	0.84	0.58
Fulfillment	0.77	0.54
Privacy	0.73	0.41
Assurance	0.75	0.63
Customer Satisfaction	0.77	0.52

Source: Field data.

Table 4. Comparison of square root of ave and inter-variable variable correlations.

Variable	Efficiency	Reliability	Responsiveness	Fulfillment	Privacy	Assurance	Customer satisfaction
Efficiency	0.73						
Reliability	0.58	0.69					
Responsiveness	0.37	0.63	0.76				
Fulfillment	0.56	0.58	0.37	0.73			
Privacy	0.50	0.52	0.40	0.67	0.64		
Assurance	0.44	0.43	0.29	0.44	0.50	0.79	
Customer Satisfaction	0.58	0.53	0.46	0.57	0.65	0.70	0.72

for the constructs of the model. The research team used Partial Least Squares (PLS) technique to run the model by using Visual Partial Least Squares (VPLS) version 1.04. Figure 2 presents the estimated model of this study.

The research team used structural model bootstrap technique in order to examine the relationship and impact of variables in the model. Table 4 describes the estimation of model by structural model bootstrap method.

The statistical testing of the conceptual model resulted in the acceptance of all the hypotheses: H₁, H₂, H₃, H₄, H₅ and H₆.

There is a positive effect of Efficiency on Customer Satisfaction with t-statistic as 4.357 and regression coefficient as 0.188 and this relationship is significant at

0.05 level. The hypothesis H₁ is therefore supported. There is a positive effect of Reliability on Customer Satisfaction with t-statistic as 0.552 and regression coefficient as 0.018 and this relationship is significant at 0.01 level. The hypothesis H₂ is therefore supported. There is a positive effect of Responsiveness on Customer Satisfaction with t-statistic as 3.036 and regression coefficient as 0.149 and this relationship is significant at 0.05 level. H₃ is therefore supported. There is a positive effect of Fulfillment on Customer Satisfaction with t-statistic as 1.423 and regression coefficient as 0.071 and this relationship is significant at 0.05 level. The hypothesis H₄ is therefore supported Table 6. There is a positive effect of Privacy on Customer Satisfaction with t-statistic as 4.334 and regression coefficient as 0.245

Table 5. Factor structure matrix of loadings.

Construct	Item	Loading
Efficiency	Eff1	0.8769
	Eff2	0.8994
	Eff3	0.8721
	Eff4	0.5143
	Eff5	0.5394
	Eff6	0.601
Reliability	Rel1	0.7418
	Rel2	0.7323
	Rel3	0.7322
	Rel4	0.5521
Responsiveness	Res1	0.8748
	Res2	0.4443
	Res3	0.7959
	Res4	0.8614
Fulfillment	Ful1	0.7698
	Ful2	0.6308
	Ful3	0.7939
Privacy	Pr1	0.4955
	Pr2	0.5419
	Pr3	0.7387
	Pr4	0.762
Assurance	Ass1	0.7487
	Ass2	0.8462
Customer satisfaction	Cst1	0.7364
	Cst2	0.6299
	Cst3	0.8011

Table 6. Structural Model-Bootstrap.

Regression effects	t-Statistic	Entire sample estimate	Mean of sub-sample	SE
Efficiency->Customer Satisfaction	4.357	0.188	0.1898	0.0397
Reliability->Customer Satisfaction	0.552	0.018	0.0437	0.0301
Responsiveness-> Customer Satisfaction	3.036	0.149	0.1550	0.0465
Fulfillment-> Customer Satisfaction	1.423	0.071	0.0808	0.0553
Privacy-> Customer Satisfaction	4.334	0.245	0.2472	0.0559
Assurance-> Customer Satisfaction	11.688	0.423	0.4226	0.0350

and this relationship is significant at 0.05 level.

The hypothesis H₅ is therefore supported. There is a positive effect of Assurance on Customer Satisfaction with t-statistic as 11.688 and regression coefficient as 0.423 and this relationship is significant at 0.01 level. The

hypothesis H₆ is therefore supported.

The R² value for the Customer Satisfaction in the internet banking is 0.662 which shows that variables: Efficiency, Reliability, Responsiveness, Fulfillment, Privacy and Assurance account for 66.2% of the variation

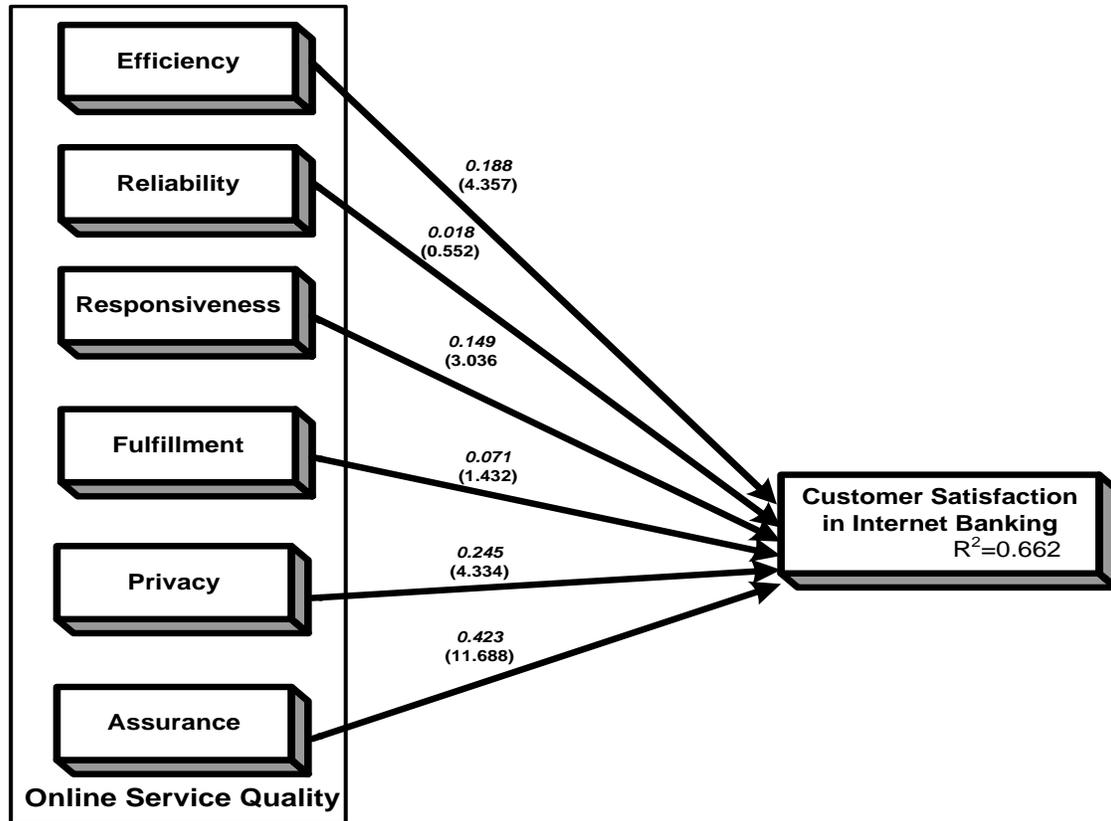


Figure 2. The estimated model.

* t-statistic in braces; ** Path Coefficients in Italics.

as regards the Customer Satisfaction in the internet banking.

Conclusion

This study supports the conceptual model of customer satisfaction based on the dimensions of quality in online services. The quality of online services helps to improve performance directly and indirectly. Process-oriented businesses tend to perform well because of enhanced efficiency and support for innovation.

All the hypotheses were accepted, the proposed conceptual model stands correct to a larger extent. The quality dimensions such as efficiency, reliability, responsiveness, fulfillment, privacy and assurance lead to higher customer satisfaction in online services. Amongst all, 'Assurance' to use e-banking by bank employees takes the highest value in terms of customer satisfaction.

LIMITATIONS AND FUTURE RESEARCH

The study was based upon convenience sampling technique, which hinders its generalizability, a probability

sampling method can reveal a picture more generalizable and closer to reality.

The privacy and fulfillment constructs widely depend upon technical knowledge of the respondent, increased awareness upon the subject may result in a shift from 'neutral' to either agree or disagree response. Due to time and budget constraints the study has been conducted on a small sample size, which may be increased in future study.

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