# Perceived Service Quality and Consumer Satisfaction : An Empirical Study from Direct to Home (DTH) TV Industry

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## Abstract

This study attempted to find the relationship between perceived service quality and consumer satisfaction in the direct to home TV Industry. The study was based on primary data, which was collected with the help of a structured questionnaire from top three urban districts, that is, Ludhiana, Amritsar, and Sahibzada Ajit Singh Nagar of Punjab. The sample size of 500 respondents was selected on the basis of convenience sampling. To measure the perceived service quality, the SERVQUAL scale was used by using its five dimensions, that is, tangibility, reliability, responsiveness, assurance, and empathy. Consumer satisfaction was measured on the 7- point Likert type scale. The data was analyzed by using the statistical tools like correlation and stepwise regression. The results found that in all the three cases - whether the consumers shifted from Cable to DTH, Set Top Box to DTH, and Doordarshan to DTH, reliability was the most significant dimension of service quality, which had an impact on consumer satisfaction. This study will help the DTH companies to frame their marketing strategies to increase their service quality on the specified dimensions so that the consumers will get higher satisfaction and remain loyal to the company. This study will also be useful for the DTH players to retain the present customers and to increase their market share.

Keywords : direct to home TV, perceived service quality, consumer satisfaction, SERVQUAL

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As the media and entertainment sector grew by 11.7% in 2015, the television industry is making progress because of increasing consumer demand and improving advertising revenue (IBEF, 2016). Television is the foremost segment in this industry and holds the maximum size in the industry with the amount of ₹ 542.2 billion (KPMG - FICCI Report, 2016). In television broadcasting, there are four methods, that is, terrestrial television, cable television, direct to home TV, and IPTV (internet protocol television). DTH TV market is making tremendous growth since its inception in 2000. It is expected that the DTH TV market will grow at a CAGR (compounded annual growth rate) of approximately 16% during the forecast period from 2016 to 2020 (Research & Markets, 2015a). The DTH market is growing because it provides those facilities to the customers which the cable TV operators were unable to provide as DTH players use high-end technology but cable operators are not in position of this. DTH TV has features like MPEG-4 quality picture, excellent sound quality, shifting home facility, movies on demand, interactive services, pause/record/rewind, and many more.

In the report by Research and Markets (2015b), increasing competition between the various players in the Indian DTH market had led to a decline in installation prices and availability of ample range of channel subscription options for subscribers. In addition, the mandated introduction of digitalization of distribution proved

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to be beneficial to bring a large number of urban households in the digital domain. With current demand for DTH service, the future of Cable TV seems to be very bleak.

DTH is defined as the reception of satellite programs with a personal dish in an individual home. DTH service is one in which various channels are digitally compressed, encrypted, and beamed from highly powered satellites. This type of reception requires small dish antenna installed at appropriate locations. DTH transmission requires no commercial intermediaries, only an individual user is connected directly to the DTH operator. However, a digital receiver (set-top box) is essential to receive the multiplexed signals and display them on a television (TRAI, 2015). India currently has seven major DTH service providers and had 84.80 million registered subscriber households as of December 2015 out of which 55.98 million were active subscribers.

The private DTH players are Dish TV (a Zee TV subsidiary), Tata Sky, Videocon D2H, Sun Network in possession of Sun Direct DTH, Reliance Digital TV, DTH service of Bharti Airtel - Airtel Digital TV, and the public sector DD Direct Plus is owned by Prasar Bharti (TRAI, 2015). As of 2012, India had rivalled the most competitive direct satellite broadcast market with seven operators for more than 135 million TV households. India overtook the United States as the largest direct broadcast satellite market in 2012 worldwide (TRAI, 2015). The Table 1 shows the subscriber base of various DTH TV players and percent of market share of DTH TV players. The Table 1 shows that there are 55.98 million active subscribers of DTH industry in India.

**Table 1. Subscriber Base and Market Share of DTH Players**

| DTH Players | Subscribers (in millions) | Market Share of Each DTH Player |
|---|---|---|
| Airtel Digital TV | 11343424 | 20.26 |
| Dish TV | 13952866 | 24.92 |
| Reliance Digital TV | 1786705 | 3.19 |
| Sun Direct | 5698544 | 10.18 |
| Tata Sky | 12045410 | 21.52 |
| Videocon D2H | 11154427 | 19.93 |
| **Total (Active Subscribers)** | **55981376** | **100** |

Source: TRAI Performance Indicator Report, 2015

These facts provide the opportunity for DTH service providers to increase their market share by stiff competition to cable operators. To give competition, the satisfaction level of consumers is the main perspective. Consumer satisfaction leads to customer retention and customer loyalty. Service quality is an antecedent to consumer satisfaction. If the customer is getting the expected service from the DTH TV operators, he/ she will be satisfied, and the company will be able to retain its consumers. With the digitization of cable services, cable operators need to carry only digitized signals. Cable operators will have to provide a STB to every subscriber, resulting in an upfront cost to customer. DTH players are leaving no stone unturned to attract consumers to switch from analog to digital DTH services. The TV penetration in Punjab was 82.65%, which ranked third all over India according to Census of India (2011). As no study has been done regarding perceived service quality and consumer satisfaction of DTH TV services in Punjab till now, the present study will make a contribution to the DTH TV market players. So, all these aspects present the need to conduct this study.

## Consumer Satisfaction

In the relationship marketing concept, consumer satisfaction was developed as the basic construct for monitoring and controlling activities. This is demonstrated by the development and publication of a large number of companies, industry-wide, and even national satisfaction indices (Hennig - Thurau & Klee, 1997). Customer

expectation strongly influences consumer satisfaction. Expectancy disconfirmation, which is the gap between perceived quality and expected quality, is a strong predictor of customer satisfaction. The differences in monetary costs, non - monetary costs, customer's tastes, and customer's characteristics are influencing factors of consumers' perceptions of value (Keiningham, Cooil, Aksoy, Andreassen, & Weiner, 2007).

The main objective of any organization is to increase profits at minimum cost. Profit maximization can be attained through sale increase with fewer costs. Customer satisfaction is the factor which can help in increasing the sales, because it is the main influencer of customer loyalty, recommendations, and repeat purchases (Wilson, Zeithaml, Bitner, & Gremier, 2008). To find the satisfaction level, firms ask consumers, whether their product or service has met or exceeded their expectations. Therefore, the factors behind the satisfaction are expectations. If the consumers have high expectations, but the reality falls short, they will feel disappointed and will likely rate their experience as less than satisfying. Consumer satisfaction is a leading indicator of consumer purchase intentions and loyalty. Consumer satisfaction depends on a myriad of factors and varies from person to person as well as product to product. When the satisfaction of consumers regarding DTH services has to be determined, then various factors have to considered like price, customer grievance and handling, interactive services, number of channels, terrestrial channels, continued service even in heavy rains, ability to record programs, quality of service, MPEG-4 video quality, sound quality, special channels for children, ease of payment, ease of purchase, etc.

## Service Quality

John (1999) defined that service could mean an industry, an output or offering, a performance or a process. He also described that services are mostly 'intangible' and their outcome is viewed as an activity ; even in case of some service substantial tangible components like equipments, physical facilities, and personnel.

Zeithaml and Bitner (2003) defined services :

> to include all economic activities whose output is not a physical product or
> construction, is generally consumed at the time it is produced and provides added
> value in forms (such as convenience, amusement, timeliness, comfort and health that
> are essentially intangible concerns of its first purchaser. (p. 84)

The SERVQUAL service quality model was developed by a group of American authors, Parasuraman, Valarie A. Zeithmal, and Len Berry in 1988. It highlights the main components of a high quality service. The SERVQUAL authors originally identified 10 elements of service quality, but in later work, these were collapsed into five factors - reliability, assurance, tangibility, empathy, and responsiveness - that create the acronym RATER (Table 2). Businesses using SERVQUAL to measure and manage service quality deploy a questionnaire that measures both the customers' expectations of service quality in terms of these five dimensions, and customers' perceptions of the

### Table 2. SERVQUAL Dimensions

| S.No. | Dimension | Description |
|-------|-----------|-------------|
| 1. | Tangibility | Appearance of physical facilities, equipment, personnel, and communication materials. |
| 2. | Reliability | Ability to perform the promised service dependably and accurately. |
| 3. | Responsiveness | Willingness to help customers and provide prompt service. |
| 4. | Assurance | Knowledge and courtesy of employees and their ability to convey trust and confidence. |
| 5. | Empathy | Caring, individualized attention the firm provides to its customers. |

Source: SERVQUAL Model by Parasuraman, Zeithaml, and Berry (1988)

service they receive. When customer expectations are greater than their perceptions of received delivery, service quality is deemed low.

## Review of Literature

Parasuraman, Zeithaml, and Berry (1988) conducted a study on SERVQUAL. The study described the development of SERVQUAL (a 22-item instrument) for determining consumer perceptions of service quality in service and retailing organizations. The procedure had been used to construct and refine the multiple - item scale to measure the construct. Tangibility, reliability, responsiveness, assurance, and empathy were found to be the five dimensions of service quality in SERVQUAL. The paper described about the applications of the scale in measuring service quality in different sectors.

Douglas and Connor (2003) emphasized that the consumer who has developed a heightened perception of quality has become more demanding and less tolerant of assumed shortfalls in service or product quality and identified the intangible elements (inseparability, heterogeneity, and perishability) of a service as the critical determinants of service quality perceived by a customer. It is very vital to note here that service quality is not only assessed as the end result, but also on how it is delivered during service process and its ultimate effect on consumer's perceptions.

Daniel and Berinyuy (2010) undertook a study by using the SERVQUAL model to assess how applicable the SERVQUAL model was in the context of grocery stores and to describe how consumers perceived service quality. To determine the perception of customers regarding service quality of grocery stores, a structured questionnaire was developed by using SERVQUAL scale of service quality. The data was gathered from the students of Umea University campus by using convenience sampling technique. The five dimensions of the scale (tangibility, reliability, responsiveness, assurance, and empathy) were considered for analysis. The results found that the overall service quality perceived by consumers was not satisfactory, which means expectations exceeded perception of services. The study also suggested that the SERVQUAL model was not the best tool to measure service quality in grocery stores. The findings suggested that grocery stores in Umea needed to improve all the dimensions of service quality from the gap analysis carried out in the study.

Joshi (2011) conducted a study of service quality and customer satisfaction across various service providers in the telecom sector. The objective of the study was to know whether the customers were satisfied with the service quality of various telecom service providers, which were analyzed under the study.

Mohammad and Alhamadani (2011) also conducted a research to examine the effect of service quality on customer satisfaction. The SERVQUAL instrument proposed by Parasuraman et al. (1988) was used and the dimensions of service quality according to SERVQUAL, that is, tangibility, reliability, responsiveness, assurance, and empathy were used and their impact on customer satisfaction was studied. To measure customer satisfaction, a 9 - item scale (Lassar, Manolis, & Winsor, 2000) was used. The reliability and validity assessment was done of dimensions of service quality and customer satisfaction by Cronbach's alpha values and by performing factor analysis to get KMO values. Correlation analysis was done to show the strength of the relationship among variables and it was found that assurance had a significantly positive relationship with customer satisfaction. To examine the impact of service quality on customer satisfaction, multiple regression analysis was conducted, and the results revealed that customer satisfaction could be explained by SERVQUAL dimensions of service quality, so a statistically significant relationship was found between service quality and customer satisfaction.

Ismail, Ridzuan, Rose, Abdullah, Rahman, and Francis (2013) conducted a research on examining the relationship between service quality and customer satisfaction in military peacekeeping missions. The data was collected from the Malaysian soldiers who were involved in peace keeping missions in a Middle Eastern country. The data was analyzed with the help of a statistical tool, that is, multiple regression analysis. The results showed

that responsiveness and assurance variables reflected a high correlation with customer satisfaction, but there was an insignificant correlation between tangibility, reliability, empathy, and customer satisfaction.

Bharwana, Basir, and Mohsin (2013) conducted a study on private colleges of Faisalabad, Pakistan with the objective to check the relationship between components of quality of services and satisfaction of students (customers). The study was focused on quality of services being offered by colleges so that those colleges can compete with their rivals and seek satisfaction from the students. The five dimensions of service quality were considered for the study. These dimensions were taken as independent variables and customer satisfaction was taken as the dependent variable. SERVQUAL instrument was used for gathering the data about the service quality dimensions. The data was analyzed with statistical tools like correlation and regression. The results depicted that students were satisfied upto some extent with the service quality provided by the colleges (assurance) and tangibility had the highest SERVQUAL score, whereas empathy had the lowest score. With the help of correlation, it was found that tangibility, responsiveness, assurance, and reliability were positively correlated with customer satisfaction; whereas empathy was negatively correlated with satisfaction of students.

Sulieman (2013) conducted a study on basic dimensions of the SERVQUAL model and ascertained its impact on the level of customer satisfaction with reference to Housing Bank in Karak, Jordan. The dimensions of SERVQUAL model were taken as independent variables and customer satisfaction was taken as the dependent variable. Simple regression analysis was used to find the relationship between dimensions of service quality and customer satisfaction. The results found that there was an impact of dimensions of service quality on the level of customer satisfaction. Empathy had the highest impact on customer satisfaction in the context of Housing Bank in Karak, Jordan.

Madan, Gupta, and Jain (2015) proposed an empirical study for exploring customer satisfaction towards DTH services using service quality dimensions to find the gap between the expectation and perception of DTH services provided to the customers. The SERVQUAL scale was used to find the gaps. The gap scores were identified by deducting expectations from perceptions. The five dimensions - tangibility, reliability, responsiveness, assurance, and empathy were taken to calculate average gap scores. The study concluded that on the basis of unweighted gap scores, the dimension reliability got the maximum score. On the basis of weighted scores, the dimension tangibility emerged as one with the highest score.

Lekh and Shukla (2015) conducted a study on service quality and customer satisfaction to explore the key dimensions of service quality for direct - to - home (DTH) services and to ascertain which aspects of service quality had a significant impact on customer satisfaction. Price was taken as an important determinant of DTH service quality. The statistical tools of correlation and stepwise regression were used for the analysis of the collected data. The study concluded that nine dimensions of DTH service quality were positively correlated with DTH service quality. The main predictors of the DTH service quality were assurance, empathy, network quality, convenience, and tangibility. Empathy was found as the best predictor of DTH service quality. The study also found that there was a positive association between dimensions of service quality and customer satisfaction.

Rajeswari, Srinivasulu, and Thiyagarajan (2016) made an attempt to do research on service quality in the telecommunication industry with special reference to DSL services to analyze the service quality in the telecommunication sector. As service quality is the antecedent to customer satisfaction, it also serves as a substantial tool for competition and survival. The data was collected with the help of a questionnaire by using the survey method. The study included the performance items of service quality. The results showed the classification of different attributes of service quality so that the telecom companies could identify those attributes and increase their performance.

## Objective of the Study

The study was conducted to examine the relationship between perceived service quality and consumer satisfaction in case of DTH TV services in Punjab.

## Research Methodology

This study was conducted from November 2015 to March 2016. Three urban districts of Punjab were selected on the basis of highest urban density. The selected districts were Ludhiana, Amritsar, and S.A.S.Nagar (Mohali). The sample size was of 500 respondents, and this sample was divided among the districts with respect to their population. The sampling unit was the head of the household. The data was collected with the help of a questionnaire. The standardized SERVQUAL scale developed by Parasuraman et al. (1988) was used to gather the responses of the customers regarding perceived service quality. Consumer satisfaction was measured on a 7- point Likert type scale. Respondents were also questioned regarding demographic features like gender, district, occupation, monthly family income, and how the customer had switched over to DTH TV, that is, from cable (wire) to DTH , cable (STB i.e. set top box) to DTH, and from Doordarshan (DD) to DTH. From the data collected, it was observed that the respondents who shifted from cable to DTH were 297, STB to DTH were 86, and DD to DTH were 117.

After collecting data, the reliability of the scale was also checked. The customers were divided on the basis of their switching behaviour. The reliability of the scale in case of customers who shifted from cable (wire) to DTH, the Cronbach's alpha of the dimensions of perceived service quality was as: tangibility (0.769), reliability (0.769), responsiveness (0.761), assurance (0.858), and empathy (0.883). In case of customers who switched from cable (STB) to DTH, the reliability was : tangibility (0.864), reliability (0.836), responsiveness (0.893), assurance (0.937), and empathy (0.909). The Cronbach's alpha of customers who switched from Doordarshan (DD) to DTH was : tangibility (0.660), reliability (0.888), responsiveness (0.838), assurance (0.801), and empathy (0.909).

The analysis was done by applying correlation and stepwise regression analysis. Stepwise regression is a useful tool when dealing with explanatory variables. In such regression, variables are either added or obliterated from the regression model at each step in the model development process that ends with the assortment of best fitting model where no variable can be included or excluded from the last fitting model (Lekh & Shukla, 2015).

From the review of literature, the hypothesis was made that there will be a significant relationship with service quality dimensions and customer satisfaction. To test this hypothesis, the following regression model was used to access the effects of each of the explanatory variables.

**Regression Equation**

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5$$
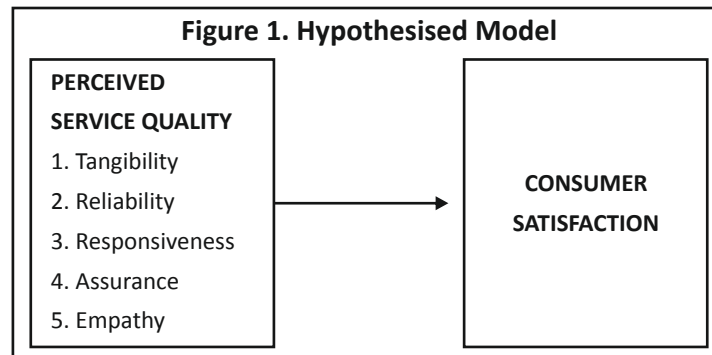
where,
$Y$= consumer satisfaction,
$a$ = constant,
$b_1, b_2, b_3, b_4, b_5$= coefficients of independent variables,
$x_1, x_2, x_3, x_4, x_5$ = independent variables.

So, the regression equation is :

*Consumer Satisfaction = a + b₁ (Tangibility)+ b₂ (Reliability)+b₃ (Responsiveness)+ b₄ (Assurance) + b₅ (Empathy)*

**Figure 1. Hypothesised Model**

| PERCEIVED SERVICE QUALITY | |
|---|---|
| 1. Tangibility | |
| 2. Reliability | CONSUMER SATISFACTION |
| 3. Responsiveness | |
| 4. Assurance | |
| 5. Empathy | |

## Analysis and Results

The Table 3 represents that demographic analysis of the respondents on the basis of demographic features, that is, gender, occupation, educational qualifications, age, and monthly family income. Further analysis was done to find the relationship between service quality dimensions (tangibility, reliability, responsiveness, assurance, and empathy) and consumer satisfaction. The stepwise regression analysis was performed to find the best model fit. The analysis was done in case of the respondents who shifted from cable to DTH, STB (set top box) to DTH, and DD to DTH.

**(1) Cable to DTH :** As shown in the Table 4, the correlation matrix indicates that service quality is positively and moderately correlated with consumer satisfaction in case of consumers who shifted from cable to DTH. The highest coefficient of correlation in this research between service quality variables and customer satisfaction, however, is 0.651, which presents a good correlation between reliability and consumer satisfaction. Thus, multicollinearity problem does not occur in this research (Hair, Anderson, Tatham, & Black, 1998). These correlations are also further evidence of validity and reliability of measurement scales used in this research (Barclay, Higgins, & Thompson & 1995 ; Hair et al., 1998).

There is a significant positive relationship between reliability and consumer satisfaction ($r = 0.651$, $n = 500$, $p = 0.01$). The positive correlation is for responsiveness and consumer satisfaction ($r = 0.608$, $n = 500$, $p = 0.01$), reliability and customer satisfaction ($r = 0.608$, $n = 500$, $p = 0.01$), between empathy and consumer satisfaction ($r = 0.593$, $n = 500$, $p = 0.01$), and between tangibility and consumer satisfaction ($r = 0.567$, $n = 500$, $p = 0.01$). In other words, the results indicate that the most important service quality dimension in case of consumer satisfaction is reliability, which goes to prove that reliability is perceived as a dominant service quality ; improvements in consumer satisfaction levels are significant. The findings reveal that the respondents who perceived a greater awareness of service quality exhibited a more positive reaction in favour of consumer satisfaction.

In Table 5, each of the variables has a tolerance value of more than 0.10 and a variance inflation factor (VIF) of less than 10. From the analysis, it can be concluded that multiple regression model of this study meets the assumptions required to ensure validity of its significance test (Boon, Safa, & Arumugam, 2006). This indicates that there is a statistically significant link between service quality and consumer satisfaction. The proposed model is adequate as the $F$-statistics ($F$ - value = 61.460, $p$ - value = 0.000) shows statistically significant relationship between service quality and consumer satisfaction. From the Table 5, it can be observed that the coefficient of determination (Adjusted $R$ square) is 0.505, representing that 50.5% of consumer satisfaction can be explained by the five independent variables of service quality. Thus, there is an effect of service quality on consumer satisfaction.

### Table 3. Demographic Profile of the Respondents

| S.No. | Particulars | No. of Respondents |
|---|---|---|
| 1. | **Gender** | |
| | Male | 391 |
| | Female | 109 |
| 2. | **Occupation** | |
| | Business | 139 |
| | Ex-Serviceman | 16 |
| | Farmer | 33 |
| | Govt. Service | 100 |
| | Housewife | 87 |
| | Labour | 30 |
| | Private Job | 95 |
| 3. | **Educational Qualifications** | |
| | Diploma | 11 |
| | Graduation | 147 |
| | Illiterate | 5 |
| | Matric | 121 |
| | Post Graduation | 58 |
| | Sen. Sec. | 71 |
| | Under Matric | 87 |
| 4. | **Age of the Respondents (in Years)** | |
| | 20-30 | 97 |
| | 30-40 | 149 |
| | 40-50 | 146 |
| | 50-60 | 68 |
| | >60 | 40 |
| 5. | **Monthly Family Income** | |
| | < ₹ 5,000 | 35 |
| | ₹ 5,000- ₹ 10,000 | 94 |
| | ₹ 10,000- ₹ 20,000 | 182 |
| | ₹ 20,000- ₹ 50,000 | 148 |
| | ₹ 50,000- ₹ 1,00,000 | 32 |
| | > ₹ 1,00,000 | 9 |

**Regression Equation**

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5$$

*Consumer Satisfaction* = 2.745 + 0.119 *(Reliability)* + 0.89 *(Assurance)* + 0.128 *(Tangibility )* + 0.140 *(Responsiveness)* + 0.100 *(Empathy)*

where,

#### Table 4. Correlations (in Case of Cable to DTH)

| | Tangibility | Reliability | Responsiveness | Assurance | Empathy | Satisfaction |
|---|---|---|---|---|---|---|
| **Tangibility** | 1 | | | | | |
| **Reliability** | .620** | 1 | | | | |
| **Responsiveness** | .525** | .727** | 1 | | | |
| **Assurance** | .604** | .689** | .706** | 1 | | |
| **Empathy** | .483** | .770** | .644** | .680** | 1 | |
| **Satisfaction** | .567** | .651** | .608** | .608** | .593** | 1 |

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

#### Table 5. Coefficients

| Model | Unstandardized Coefficients | | Standardized Coefficients | $t$ | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 2.745 | .195 | | 14.062 | .000 | | |
| **Reliability** | .119 | .046 | .203 | 2.607 | .010 | .277 | 3.616 |
| **Assurance** | .089 | .047 | .127 | 1.885 | .060 | .368 | 2.720 |
| **Tangibility** | .128 | .034 | .207 | 3.749 | .000 | .551 | 1.816 |
| **Responsiveness** | .140 | .053 | .173 | 2.634 | .009 | .390 | 2.567 |
| **Empathy** | .100 | .049 | .139 | 2.041 | .042 | .359 | 2.783 |

Dependent Variable : Satisfaction $R$ Square = .514, Adjusted $R$ Square = .505

$F$ value = 61.460, Sig. = .000

consumer satisfaction is the dependent variable or criterion variable, 2.65 is the constant and reliability, assurance, tangibility, responsiveness, and empathy are independent or predictor variables. The regression equation predicts that when there will be a change in reliability, assurance, tangibility, responsiveness, and empathy, there will also be a change in consumer satisfaction.

**(2) STB (Set Top Box) to DTH :** As shown in the Table 6, the correlation matrix indicates that service quality is positively and moderately correlated with consumer satisfaction in case of consumers who switched from STB to DTH. The highest coefficient of correlation in this study between service quality variables and consumer satisfaction, however, is 0.651, which presents the good correlation between reliability and consumer satisfaction. There is a significant positive relationship between reliability and consumer satisfaction

#### Table 6. Correlations (STB to DTH)

| | Tangibility | Reliability | Responsiveness | Assurance | Empathy | Satisfaction |
|---|---|---|---|---|---|---|
| **Tangibility** | 1 | | | | | |
| **Reliability** | .501** | 1 | | | | |
| **Responsiveness** | .371** | .594** | 1 | | | |
| **Assurance** | .496** | .820** | .661** | 1 | | |
| **Empathy** | .348** | .700** | .718** | .723** | 1 | |
| **Satisfaction** | .503** | .651** | .629** | .645** | .598** | 1 |

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

**Table 7. Coefficients**

| Model | Unstandardized Coefficients | | Standardized Coefficients | $t$ | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 2.729 | .307 | | 8.890 | .000 | | |
| **Reliability** | .204 | .060 | .341 | 3.413 | .001 | .556 | 1.798 |
| **Responsiveness** | .245 | .065 | .352 | 3.781 | .000 | .640 | 1.562 |
| **Tangibility** | .118 | .050 | .202 | 2.340 | .022 | .741 | 1.349 |

Dependent Variable: Satisfaction $R$ Square = .545, Adjusted $R$ Square = .529

$F$ value = 32.77, Sig. = .000

($r = 0.651$, $n = 500$, $p = 0.01$). The positive correlations are for assurance and consumer satisfaction ($r = 0.645$, $n = 500$, $p = 0.01$), responsiveness and consumer satisfaction ($r = 0.629$, $n = 500$, $p = 0.01$), empathy and consumer satisfaction ($r = 0.598$, $n = 500$, $p = 0.01$), and for tangibility and consumer satisfaction ($r = 0.503$, $n = 500$, $p = 0.01$). The results indicate that the most important service quality dimension on customer satisfaction is reliability, which goes to prove that reliability is perceived as a dominant service quality ; and improvements in consumer satisfaction levels were significant.

The Table 7 shows that each of the variables have a tolerance value of more than 0.10 and a variance inflation factor (VIF) of less than 10. The proposed model is satisfactory as the $F$ - statistics ($F$ - value = 32.77, $p$ - value = 0.000) shows statistically significant relationship between service quality and consumer satisfaction. From the Table 7, it can be deduced that the coefficient of determination (Adjusted $R$ square) is 0.529, representing that 52.9% of consumer satisfaction can be explained by the three independent variables of service quality, that is, reliability, responsiveness, and tangibility . Thus, there is an effect of service quality on consumer satisfaction.

**Regression Equation**

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3$$

*Consumer Satisfaction* = 2.72 + 0.204 *(Reliability)* + 0.245 *(Responsiveness)* + 0.118 *(Tangibility)*

where, consumer satisfaction is a dependent variable or criterion variable, 2.65 is the constant and reliability, responsiveness, and tangibility are independent or predictor variables. The regression equation predicts that there will be a change in consumer satisfaction with the change in reliability, responsiveness, and tangibility.

**(3) DD to DTH :** As shown in the Table 8, the correlation matrix points that service quality is positively and moderately correlated with customer satisfaction. The highest coefficient of correlation in this study is between service quality variables and consumer satisfaction (0.649), which presents the highly positive correlation between reliability and consumer satisfaction.

There is a significant positive relationship between reliability and consumer satisfaction ($r = 0.649$, $n = 500$, $p = 0.01$). There is a positive correlation between assurance and consumer satisfaction ($r = 0.572$, $n = 500$, $p = 0.01$), empathy and consumer satisfaction ($r = 0.570$, $n = 500$, $p = 0.01$), between tangibility and consumer satisfaction ($r = 0.562$, $n = 500$, $p = 0.01$), and between responsiveness and consumer satisfaction ($r = 0.525$, $n = 500$, $p = 0.01$). The results show that the most important service quality dimension on consumer satisfaction is reliability, which goes to prove that reliability is perceived as a dominant service quality ; and improvements in consumer satisfaction levels were significant.

The Table 9 shows that all the variables have a tolerance value of more than 0.10 and a variance inflation factor

## Table 8. Correlations (DD to DTH)

| | Satisfaction | Tangibility | Reliability | Responsiveness | Assurance | Empathy |
|---|---|---|---|---|---|---|
| **Satisfaction** | 1 | | | | | |
| **Tangibility** | .562** | 1 | | | | |
| **Reliability** | .649** | .642** | 1 | | | |
| **Responsiveness** | .525** | .574** | .777** | 1 | | |
| **Assurance** | .572** | .583** | .694** | .678** | 1 | |
| **Empathy** | .570** | .394** | .774** | .739** | .621** | 1 |

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

## Table 9. Coefficients

| Model | Unstandardized Coefficients | | Standardized Coefficients | $t$ | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 2.650 | .308 | | 8.610 | .000 | | |
| **Reliability** | .212 | .101 | .277 | 2.111 | .037 | .267 | 3.749 |
| **Tangibility** | .215 | .067 | .290 | 3.199 | .002 | .562 | 1.780 |
| **Empathy** | .176 | .080 | .241 | 2.196 | .030 | .383 | 2.610 |

Dependent Variable: Satisfaction, $R$ Square = 0.480, Adjusted $R$ Square = 0.466

$F$ value = 34.77, Sig. = .000

(VIF) of less than 10. The proposed model is adequate as the $F$-statistics ($F$ - value $= 34.77, p$ - value $= 0.000$) shows statistically significant relationship between service quality and customer satisfaction. From the Table 9, it can be deduced that the coefficient of determination (Adjusted $R$ square) is 0.466, representing that 46.6% of the customer satisfaction can be explained by the three independent variables of service quality . Thus, there is an effect of service quality on consumer satisfaction.
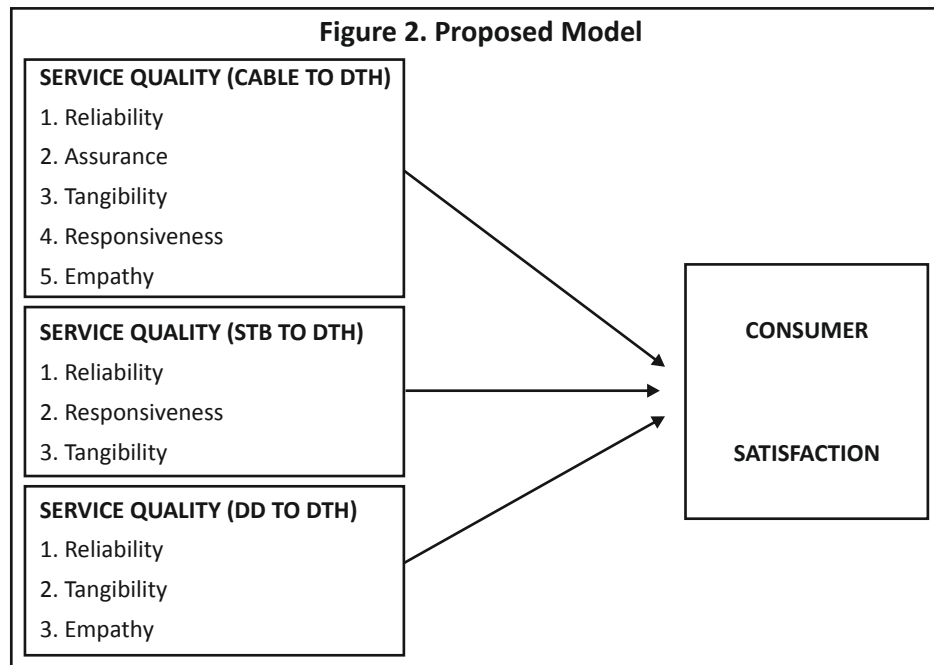
### Regression Equation

$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3$

*Consumer Satisfaction* $= 2.65 + 0.212$ *(Reliability)* $+ 0.215$ *(Tangibility)* $+ 0.176$ *(Empathy)*

where,
consumer satisfaction is the dependent variable or criterion variable, 2.65 is the constant and reliability, tangibility, and empathy are independent or predictor variables. It can be predicted from the regression equation that consumer satisfaction can be changed with a change in reliability, tangibility, and empathy.

**(4) Proposed Model :** The Figure 2 shows the proposed model of service quality and consumer satisfaction in case of consumers who shifted from cable to DTH, STH to DTH, and Doordarshan to DTH. The model indicates that in case of cable to DTH shifted respondents, the most significant service quality dimension is reliability, and all the five dimensions of service quality have an impact on consumer satisfaction. In case of the consumers who shifted from STB to DTH, the three dimensions of service quality, that is, reliability, responsiveness, and tangibility have an impact on consumer satisfaction. In case of the consumers who shifted from Doordarshan to DTH, consumer satisfaction is affected by reliability, tangibility, and empathy dimensions of service quality.

**Figure 2. Proposed Model**

| SERVICE QUALITY (CABLE TO DTH) |
|---|
| 1. Reliability |
| 2. Assurance |
| 3. Tangibility |
| 4. Responsiveness |
| 5. Empathy |

| SERVICE QUALITY (STB TO DTH) |
|---|
| 1. Reliability |
| 2. Responsiveness |
| 3. Tangibility |

| SERVICE QUALITY (DD TO DTH) |
|---|
| 1. Reliability |
| 2. Tangibility |
| 3. Empathy |

**CONSUMER**

**SATISFACTION**

## Discussion

The study was done to find the relationship between perceived service quality and consumer satisfaction. The perceived service quality is measured by using SERVQUAL scale ; the five dimensions of the scale are used to find the relationship between service quality dimensions and customer satisfaction. The five dimensions are : tangibility, reliability, responsiveness, assurance, and empathy. The respondents were divided among the three categories, that is, the respondents who shifted from cable to DTH, STB (set top box) to DTH, and DD (Doordarshan) to DTH. The correlations between the dimensions of service quality and consumer satisfaction are analyzed, and reliability is found to be the most significant and positively correlated dimension of service quality with customer satisfaction. After that, stepwise regression was used to find the significant dimensions that had an impact on consumer satisfaction. The results conclude that in case of the respondents who shifted from cable to DTH, all the five dimensions have a significant impact on consumer satisfaction. The most significant dimension is reliability followed by assurance, tangibility, responsiveness, and empathy. In case of the respondents who shifted from STB to DTH, the dimensions that have an impact on consumer satisfaction are reliability, responsiveness, and tangibility according to their significance levels. In case of the respondents who shifted from DD to DTH, reliability, tangibility, and empathy are the significant variables that have an impact on consumer satisfaction.

From the results, it can be concluded that the DTH companies should take into consideration the significant dimensions of service quality which have an impact on consumer satisfaction. The DTH players have to improve their service quality to increase the satisfaction level of consumers and to retain their present customers as well as to increase their market share. Reliability is found to be the most important dimension of service quality in all the three cases which has an impact on consumer satisfaction. So, the DTH players should make their marketing strategies accordingly to improve their service quality so that consumer satisfaction can also be increased.

## Managerial Implications

As no study has been conducted related to consumer satisfaction regarding DTH TV sector in Punjab ; so, the

present study will be helpful for DTH service players to make their marketing strategies according to the findings of this study. Service quality is an antecedent to consumer satisfaction. The study found the dimensions of service quality that create satisfaction among DTH consumers. DTH players can use these dimensions to make improvements to increase their service quality levels so as to enhance customer satisfaction.

## Limitations of the Study and Scope for Further Research

The limitations in the study is related with the consumers, who were the respondents for the study. There may be possibility of misinterpretation or predisposition to a specific response, which may result in inaccuracies of data. The area of the research was limited to Punjab state only. The satisfaction level may be different in other districts of Punjab and even in other parts of India. The sample size was covering only the limited area of population of DTH TV users in Punjab.

As this study was done to find the consumer perception and satisfaction of DTH users, further research can be conducted in this area from the perspective of DTH service providers and retailers. This study was done only in the urban areas of Punjab ; further studies can be done by considering different districts of Punjab or a study can be conducted in different states of India or on a pan - India level. The research can be done in rural areas too as the users of DTH are high in these areas because of the facility of portability of DTH services.

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