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A study of consumer satisfaction towards led technology with reference to led TV Coimbatore of Tamil Nadu

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Abstract

This article titled "A Study on consumer satisfaction towards LED technology with reference to LED TV in Coimbatore district" is about led technology and its impact on television applications. It highlights the consumer satisfaction and development in this application. This paper mainly focuses on the purpose, usage, lifetime of LED TV. Primary objective of this study is to find out the consumer preference and satisfaction towards LED TV with special reference to Coimbatore. The secondary data was collected from related websites, books. The survey was conducted to 50 respondents by using questionnaire method. For distribution of questionnaire to the consumer, convenience sampling method was used.

Keywords: Consumer Satisfaction, LED technology,

Introduction

The LED has become a pivotal illumination technology with a wide variety of applications. Since their initial invention, LEDs have been used in many diverse applications such as watches, calculators, remote controls, indicator lights, and backlights for many common gadgets and household devices. The technology is advancing at a rapid pace and new applications continue to emerge as the brightness and efficiency of LEDs increase. From the early 1900s, scientists have been discovering ways to generate light from various materials. In 1907, Henry Joseph Round discovered that light could be generated from a sample of Silicon Carbide (SiC). For the next 50 years, scientists continued to discover the light emitting properties that exist with some compounds. In the 1950s, studies around the properties of Gallium Arsenide (GaAs) paved the way for the first official LED discoveries that soon followed. LED research began in the early 1960's, primarily at Bell Labs, Hewlett Packard (HP), IBM, Monsanto, and RCA. Gallium-Arsenide-Phosphide (GaAsP) provided the basis for the first commercially available red LEDs in 1968 by HP and Monsanto. In the early 1970s, the use of LEDs exploded with new applications such as calculators and watches by companies like Texas Instruments (TI), HP, and Sinclair. Other applications such as indicator lights and alphanumeric displays soon became the mainstream use for LEDs and continued to be so for many years.

Statement of the Problem

- A study of consumer satisfaction towards the LED Technology with reference to LED TV.
- The satisfaction level of the consumer should be analysed.
- Solutions for improving the LED TV should be analysed.

Objective

The objective of the study is-

To study the satisfaction level of the consumer who have used the led technology in form of LED TV.

To study the preference level of the consumer who have used the led technology in form of LED TV.

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Methodology

- Primary data are collected fresh and happen to be original in chapter. The objective of the study has been accomplished with the help of primary data collected from 50 respondents.
- Questionnaire was the research instrument used in the study. A structured questionnaire was given to the respondents. It was pre-tested with some of the respondents through a pilot survey and required corrections were made.
- The secondary data those which have already been collected by someone else and have already been through the statistical process. Secondary data has been obtained from the in-house Journal, Magazines and Internet.

Data Analysis and Interpretation

Table 1: Marital Status of Consumers

	Sample Respondents	Percentage
Single	30	60.0
Married	20	40.0
Total	50	100.0

Source: Primary data

The above table reveals that 60% of sample respondents are single and only 40% of sample respondents are married.

Table 2: Litrecy Leve of Sample Respondents

	Sample respondents	Percentage
school level	7	14.0
Diploma	8	16.0
Graduate	34	68.0
Others	1	2.0
Total	50	100.0

Source: Primary data

Table no. 2 infers that 68% of sample respondents are graduate and 7% of sample respondents are school level.

Table 3: Occupation of the Sample Respondents

	Sample respondents	Percentage
self employed	22	44.0
Professional	5	10.0
Employed	23	46.0
Total	50	100.0

Source: Primary data

Table no.3 reveals that 23% of the sample respondents are employed and 22% of the sample respondents are self-employed.

Table 4: Family Size of the Sample Respondents

	Sample respondents	Percentage
Less than 3	20	40.0
4-6	30	60.0
Total	50	100.0

Source: Primary Data

The above table infers that 40% of the sample consumer's family is less than 3 and 60% of the sample consumer's family size is 4-6 members.

Table 5: Income Level of the Sample Respondents

	Sample respondents	Percentage
Less than 100000	14	28.0
100000-250000	24	48.0
250000-500000	10	20.0
>=500000	2	4.0
Total	50	100.0

Source: Primary Data

The above table tells that 48% of the sample consumer's family income is from Rs.1, 00,000 to Rs.2, 50,000.

Table 6: Residential Area of the Sample Respondents

	Sample respondents	Percentage
Village	8	16.0
town panchayat	21	42.0
municipal coporation	21	42.0
Total	50	100.0

Source: Primary Data

Table no.6 reveals that 42% of sample respondents are in town panchayat and 8% are in village.

Table 7: Influence for Buying the Led Tv

	Sample respondents	Percentage
family members	17	34.0
Advertisement	19	38.0
Friends	12	24.0
Relatives	2	4.0
Total	50	100.0

Source: Primary Data

The above table infers that 38% of the sample respondents are influenced by advertisement to buy the LED TV and 4% are influenced by the relatives.

Table 8: Preferred Brand by the Sample Respondents

	Sample respondents	Percentage
Sony	19	38.0
LG	6	12.0
Samsung	12	24.0
Panasonic	6	12.0
Others	7	14.0
Total	50	100.0

Source: Primary Data

Table no.7 reveals that 38% of sample respondents preferring the SONY LED TV and 12% of LG and PANASONIC LED TV.

Table 9: Preferred Size by the Sample Respondents

	Sample respondents	Percentage
14-20	5	10.0
21-30	18	36.0
31-40	21	42.0
>=40	6	12.0
Total	50	100.0

Source: Primary Data

Table no.8 tells that 42% of sample respondents are preferring 31"-40" LED TV and 10% are preferring 14"-20" LED TV.

Table 10: Price Range of the Led TV Preferred By the Sample Respondents:

	Sample respondents	Percentage
15000-25000	12	24.0
25000-40000	21	42.0
>=40000	17	34.0
Total	50	100.0

Source: Primary Data

Table no.9 interprets that 42% of sample respondents are preferring the LED TV at price range of Rs.25, 000-Rs.40, 000.

Table 11: Features Preferred By the Sample Respondents

	Sample respondents	Percentage
USB option	22	44.0
Monitor	7	14.0
Application	6	12.0
Wi-Fi	5	10.0
Camera	2	4.0
dual screen	2	4.0
album viewer	6	12.0
Total	50	100.0

Source: Primary Data

Table no.10 interprets that 44% of sample respondents are having the USB option on their LED TV and 4% of sample respondents are having camera and dual screen.

Table 12: Usage Duration of Led Tv By The Sample Respondents

	Sample respondents	Percentage
<2	23	46.0
2-3	17	34.0
3-5	10	20.0
Total	50	100.0

Source: Primary Data

The above table reveals that 46% of sample respondents are using LED TV less than 2 years and 20% of sample respondents are using LED TV about 3-5 years.

Table 13: Purpose of Using Led Tv

	Sample respondents	Percentage
Browsing	5	10.0
video chatting	2	4.0
Gaming	15	30.0
3D	8	16.0
social networking	9	18.0
None	11	22.0
Total	50	100.0

Source: Primary Data

The above table tells that 30% of sample respondents additionally preferred for gaming purpose and 4% of sample respondents additionally preferred for video chatting purpose.

Table 14: Preferred Connection for Led Tv

	Sample respondents	Percentage
Cable	19	38.0
Dish	29	58.0
Web	2	4.0
Total	50	100.0

Source: Primary Data

Table no.13 interprets that 58% of sample respondents prefer DISH connection for viewing the LED TV and 4% of sample respondents prefer web portals.

Table 15: Satisfaction Level of the Respondents

	Sample respondents	Percentage
highly dissatisfied	1	2.0
Dissatisfied	1	2.0
Neutral	10	20.0
Satisfied	26	52.0
highly satisfied	12	24.0
Total	50	100.0

Source: Primary data

Table no.15 interprets that 52% of sample respondents are satisfied on the LED TV, 10% of sample respondents are neutral and 2% of sample respondents are highly dissatisfied

Table 16: Level of Power Consumption of Led Tv Used By Sample Consumer

	Sample respondents	Percentage
High	12	24.0
Medium	28	56.0
Low	10	20.0
Total	50	100.0

Source: Primary data

The above table reveals that the 56% of sample respondents are telling that LED TV consumes medium level of power consumption and 20% of sample respondents are telling that LED TV consumes low level of power consumption.

Table 17: Difference Found By Sample Respondents

	Sample respondents	Percentage
Quality	17	34.0
Price	11	22.0
Service	6	12.0
Features	14	28.0
Others	2	4.0
Total	50	100.0

Source: Primary data

Table no.15 reveals that 34% of sample respondents are feeling the quality as difference from other LED TV and 12% sample respondents are feeling the service as difference from other LED TV.

Table 18: Life Time Led Tv Used By The Sample Respondents

	Sample respondents	Percentage
<5	17	34.0
5-10	28	56.0
>=10	5	10.0
Total	50	100.0

Source: Primary data

Table no.16 interprets that 56% of sample respondents are telling the life time of LED TV will be 5-10 years and 10% of sample respondents are telling that life time of LED TV will be more than 10 years.

Chi-Square Test:

Relationship between Income Level and the Preferred Size:

Table 19

	Observed N	Expected N	Residual
Less than 100000	14	12.5	1.5
100000-250000	24	12.5	11.5
250000-500000	10	12.5	-2.5
Greater than or equal to 500000	2	12.5	-10.5
Total	50		

Table 20

	Observed N	Expected N	Residual
14"-20"	5	12.5	-7.5
21"-30"	18	12.5	5.5
31"-40"	21	12.5	8.5
Greater than or equal to 40"	6	12.5	-6.5
Total	50		

Table 21

	Income Level	Preferred Size
Chi-Square	20.080	16.080
Degree of freedom	3	3
Level of Significance	.000	.001

Table no.21 interprets that the table value of chi-square is greater than the calculated value. So we accept the null hypothesis. Hence, there is a relationship between income of the respondents and their LED TV size preference.

Relationship between Income Level and the Preferred Brand

Table 22

	Observed N	Expected N	Residual
SONY	19	10.0	9.0
LG	6	10.0	-4.0
SAMSUNG	12	10.0	2.0
PANASONIC	6	10.0	-4.0
OTHERS	7	10.0	-3.0
Total	50		

Table 23

	Income Level	Preferred Brand
Chi-Square	20.080	12.600
Degree of freedom	3	4
Asymp. Sig.	.000	.013

Table no.21 interprets that the table value of chi-square is greater than the calculated value. So we accept the null hypothesis. Hence, there is a relationship between income of the respondents and their LED TV brand.

Findings

- 60% of sample respondents are single and only 40% of sample respondents are married.
- 68% of sample respondents are graduate and 7% of sample respondents are school level.
- 23% of the sample respondents are employed and 22% of the sample respondents are self employed
- 40% of the sample consumer's family is less than 3 and 60% of the sample consumer's family size is 4-6 members

- 48% of the sample consumer's family income is from Rs.1, 00,000 to Rs.2, 50,000.
- 42% of sample respondents are in town panchayat and 8% are in village.
- 38% of the sample respondents are influenced by advertisement to buy the LED TV and 4% are influenced by the relatives.
- 38% of sample respondents preferring the SONY LED TV and 12% of LG and PANASONIC LED TV.
- 42% of sample respondents are preferring 31"-40" LED TV and 10% are preferring 14"-20" LED TV
- 44% of sample respondents are having the USB option on their LED TV and 4% of sample respondents are having camera and dual screen.
- 46% of sample respondents are using LED TV less than 2 years and 20% of sample respondents are using LED TV about 3-5 years
- 30% of sample respondents additionally preferred for gaming purpose and 4% of sample respondents additionally preferred for video chatting purpose.
- 58% of sample respondents prefer DISH connection for viewing the LED TV and 4% of sample respondents prefer web portals
- 52% of sample respondents are satisfied on the LED TV, 10% of sample respondents are neutral and 2% of sample respondents are highly dissatisfied
- 56% of sample respondents are telling that LED TV consumes medium level of power consumption and 20% of sample respondents are telling that LED TV consumes low level of power consumption.
- 34% of sample respondents are feeling the quality as difference from other LED TV and 12% sample respondents are feeling the service as difference from other LED TV.
- 56% of sample respondents are telling the life time of LED TV will be 5-10 years and 10% of sample respondents are telling that life time of LED TV will be more than 10 years.

Suggestions

- **Table 6** reveals that only 16% of rural consumers prefer LED TV.so the LED TV manufacturers can concentrate on ruaral market to increase their market share.
- **Table 18** reveals that only 10% of respondents are satisfied with the durability of LED TV.so we would like to suggest that LED TV companies can invest on technological areas to have the expected lifetime of the LED.

Conclusion

As LED technology developments continue to improve brightness and reliability, LED illumination may become more of a mainstream light source for many future applications. Future developments will be able to take further advantage of the fast LED switching time to improve video performance, enhance contrast without opto-mechanical components, and create adjustable color gamut's that far exceed the possibilities of traditional illumination sources. New products will soon benefit from these fundamental capabilities providing new, unique designs that offer instant on, better colors, and overall better picture using the speed of micro mirror arrays. With the advantages of LED technologies working together, it is expected that HDTVs

will provide even better performance with better reliability far exceeding any existing HDTV product.

- It reveals that the LED TV is preferred by the consumer on the basis of few factors such as income, family size, etc.,
- By analyzing the data collected from the sample consumer reveals the satisfaction level of the consumer over LED TV.
- Finally, the LED technology on LED TV made a great change in the world of television.

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