

**A STUDY ON THE EVALUATION OF THE ANTECEDENTS OF
CONSUMER'S PURCHASE INTENTION OF BLDC MOTOR FANS**

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by

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Date: April 2023



Examined by:

Richolkar

Seal of the School

DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation / Internship report entitled, “A study on the evaluation of the antecedents of consumer’s purchase intention of BLDC Motor fans” is based on the results of investigations carried out by me in the Management Studies at the Goa Business School, Goa University under the Supervision/Mentorship of Ms. Teja Khandolkar and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities will be not be responsible for the correctness of observations / experimental or other findings given the dissertation.

I hereby authorize the University authorities to upload this dissertation on the dissertation repository or anywhere else as the UGC regulations demand and make it available to any one as needed.



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Place: Goa University

COMPLETION CERTIFICATE

This is to certify that the dissertation / internship report “A study on the evaluation of the antecedents of consumer’s purchase intention of BLDC Motor fans” is a bonafide work carried out by **Ms. Deepjyoti Bhinga Hadki** under my supervision/mentorship in partial fulfilment of the requirements for the award of the degree of **Mater of Business Administration** in the Discipline Management Studies at the Goa Business School, Goa University.

Date: 28th April 2023



Prof. Jyoti Pawar
Dean,
Goa Business School

Date: 28th April 2023
Place: Goa University



Ms. Teja Khandolkar
Management Studies



School Stamp



ROTO TECHNIC

This is to certify that **Ms. Deepjyoti Bhinga Hadki** student of the Goa Business school undergoing Masters of Business administration has successfully completed internship between 01/03/2023 to 26/04/2023 at Roto Technic, SA 58, Cuncolim Industrial Estate, Cuncolim.

She actively participated in the activities during the period of Internship and learned the skills needed for various activities such as sales prospecting, sales approach and market research.

Place: Cuncolim, Goa

Date: 26/04/2023


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COMPANY PROFILE

Roto Technic is the first Goa based Energy-Efficient Fan manufacturing company. The company began its operations in the year 1997 as a business of Fluid Machinery to provide its customers with the best quality energy efficient products under the brand label Aeiry Fans which are hassle-free and long lasting. The competitive price products with the highest standard of Quality established the company's name in Pump and Fan Industry as providers of Best Technologically Innovative solutions in field of both Electrical and Mechanical Designs with cost effective and viable Products. The company initially ventured in the manufacturing of pumps and later expanded into the manufacturing of energy efficient fans. They also manufacture fan components for renowned brand Crompton. The product manufacturing takes place in their own factory which is establish in the Cuncolim Industrial Estate – Goa.

Vision:

We believe that our products should be energy efficient and long lasting. It should leave you happy, with money in your pocket.

Mission:

To make your life hassle-free with creative Innovative easy serviceable and sound products that make our company a Premier consumer product company in Global Scenario.

Product Range:

- ES 27
- ES 27 DECO
- ES 27 ATOMWOOD

The price range of the products ranges from 4500 to 6000.

INTRODUCTION

The consumption rate of electricity is increasing rapidly on a global level as it is an essential component of the modern lifestyle (Liu, 2015). In 2019, the total electricity consumption reached 22,848 TWh rising by about 1.7% from the year 2018. The most energy consumption occurs in the residential, commercial, and public services sectors. Other consumption sectors such as fishing, agriculture, and transport are comparatively small consumers of electricity. However, in recent times the transport sector's electrical consumption has been growing at a noticeable pace due to the growing market share of electric vehicles across countries. China, the USA, India and Japan were the top four electricity-consuming countries in the year 2019. (IEA (2021), Electricity Information: Overview, IEA, Paris <https://www.iea.org/reports/electricity-information-overview>, License: CC BY 4.0). In the past few years, there has been a substantial increase in energy consumption in the residential sector (Waris & Hameed, 2020a) household consumption as a percentage of the global gross domestic product was 63.64% in the year 2018 which gave a rise to excessive consumption causing depletion of resources, pollution and loss of biodiversity (FATOKI, 2020).

Having a look at the electricity consumption in India, the industrial sector accounts for the highest share of energy consumption as of the year 2021 which sums up to 41% of the total consumption. The second highest consumer of energy is the domestic sector in India at 26% of the total consumption.

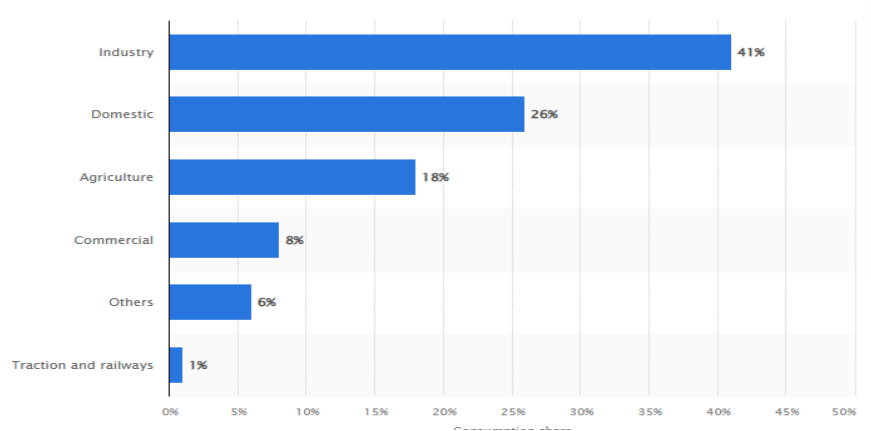


Figure 1, Source: *India: electricity consumption share by sector 2021* | Statista

BLDC Motor Technology

BLDC stands for Brushless Direct Current. BLDC technology, in general, has been in the market for a couple of decades and it is widely implemented in industries needing high torque motors. What was missing so long is its application in the ceiling fans.

A motor is essentially made up of two parts: A rotor and a stator. Rotor is the moving part (inside) of a motor while stator is a stationary (outer) part. The two parts use magnetic/electromagnetic energy to create movement/rotation just like how two magnets interact to create rotational motion (as shown in the gif below). And this is how a motor works. Winding copper/aluminum wire around a steel/iron metallic piece typically creates the electromagnets for stator. The magnet for the rotor can be permanent magnet or electromagnet depending on the type of motor. (Technology – Aeiry Fans)

When it comes to saving energy, most of us generally overlook ceiling fans. We see big appliances like air conditioners or heaters with suspicion for surreptitiously piling up the electricity bill. What we fail to understand though is that the ceiling fans are all-weather appliance—which keeps running all through the day (and even night)—thus cumulatively consume more electricity than we assume it to be.

For years, ceiling fans used to come with the same hardware of induction motor which typically consumed 70-80 watts for a standard ceiling fan. But in the last few years, a new technology called BLDC is being used to make fans consume a lesser amount of energy, without compromising much on the air delivery. BLDC stands for brush-less direct-current motor, a special type of motor which has permanent magnet instead of electromagnets found in a conventional induction motor. BLDC motor has important advantages over induction motor like low electricity consumption, lesser noise generation and better lifespan. (Technology – Aeiry Fans)

Due to the rising needs of the population, the energy demand is expected to grow by one-third by the year 2035 (International Energy Agency, 2014). With the increasing demand for energy and depleting resources, there is a need for the use of energy-efficient and sustainable products as reducing the use of energy is the only way to protect the environment and sustain the resources of the world. The government is also promoting Star-Labeling in appliances as they are energy efficient and nearly consume one-fourth of the energy consumed by non-star-labeled appliances. Due to various factors such as environmental concerns, and changing attitudes towards society, values, and beliefs, consumers are also becoming cautious of their purchases when it comes to electronics and home appliances.

This study focuses on understanding the drivers of change among consumers from the conventional fans to the BLDC Motor fans which is the highest star labeling. This study will be presented as the extended version of the Theory of planned behavior as this study has included Knowledge of star labels, Financial Concerns, and Environmental Concerns to the theory and will further examine its effect on the purchase intentions of BLDC Motor fans. This study would be helpful for organizations and practitioners to plan strategies that attract maximum consumers toward the sustainability of the environment and boost the purchase of energy-efficient fans.

LITERATURE REVIEW

Knowledge of Star Labeling

The consumer's knowledge about star rating labeling in appliances is a better predictor of consumer's pro-environmental behavior compared to general knowledge. In previous studies, researchers have found that there was inconsistency between general knowledge and environmentally friendly behavior which is why the researchers suggest specific information related to green products, energy-efficient star rating to attract green consumers.(Waris & Hameed, 2020d)(Li et al., 2021)

H0: Knowledge of star labeling will not positively influence consumer's purchase intention

H1: Knowledge of star labeling will positively influence consumer's purchase intention.

Attitude of consumers

Recycling behavior in an outcome of positive attitude which acts as a motivating factor leading to the favorable behavior as it acts the mediator between beliefs and behavior. (Waris & Ahmed, 2020) in the context of energy saving products researchers have confirmed a positive relationship between attitude and purchase intention. (Tan et al., 2017; Wang et al., 2017; Gadenne et al., 2011; Greaves et al., 2013). Akroush et al. (2019) argue that attitude is the most influencing factor affecting the purchase intention of energy-efficient products. (Li et al., 2021)

H0: Attitude toward energy-efficient fans will not positively influence consumer's purchase intention.

H1: Attitude toward energy-efficient fans will positively influence consumer's purchase intention.

Environmental Concerns

Consumer's emotional engagement for the safety of the environment provides manufacturers with an opportunity to introduce environmentally friendly products in the market. Many researchers have suggested that environmental concern was the highest factor affecting the purchase of green products over the years. Studies also reveal that consumers that are environmentally cautious are more inclined towards the purchase of energy-efficient and environmentally friendly appliances for their daily consumption. (Fatoki, 2020a; Waris & Hameed, 2020e)(Li et al., 2021)

H0: Environmental Concerns will not positively influence consumer's purchase intention.

H1: Environmental Concerns will positively influence consumer's purchase intention.

Functional Value

Researchers suggest that product attributes such as the durability of the products, long-term benefits, and price are important motivators that influence the purchase intention of consumers toward energy-efficient appliances. in a scenario where consumers feel that proenvironmental behavior would lead to the betterment of the environment, they are more likely inclined to purchase eco-friendly products such as energy-efficient appliances. (Waris & Hameed, 2020b)

H0: Functional Value will not positively influence consumer's purchase intention.

H1: Functional Value will positively influence consumer's purchase intention.

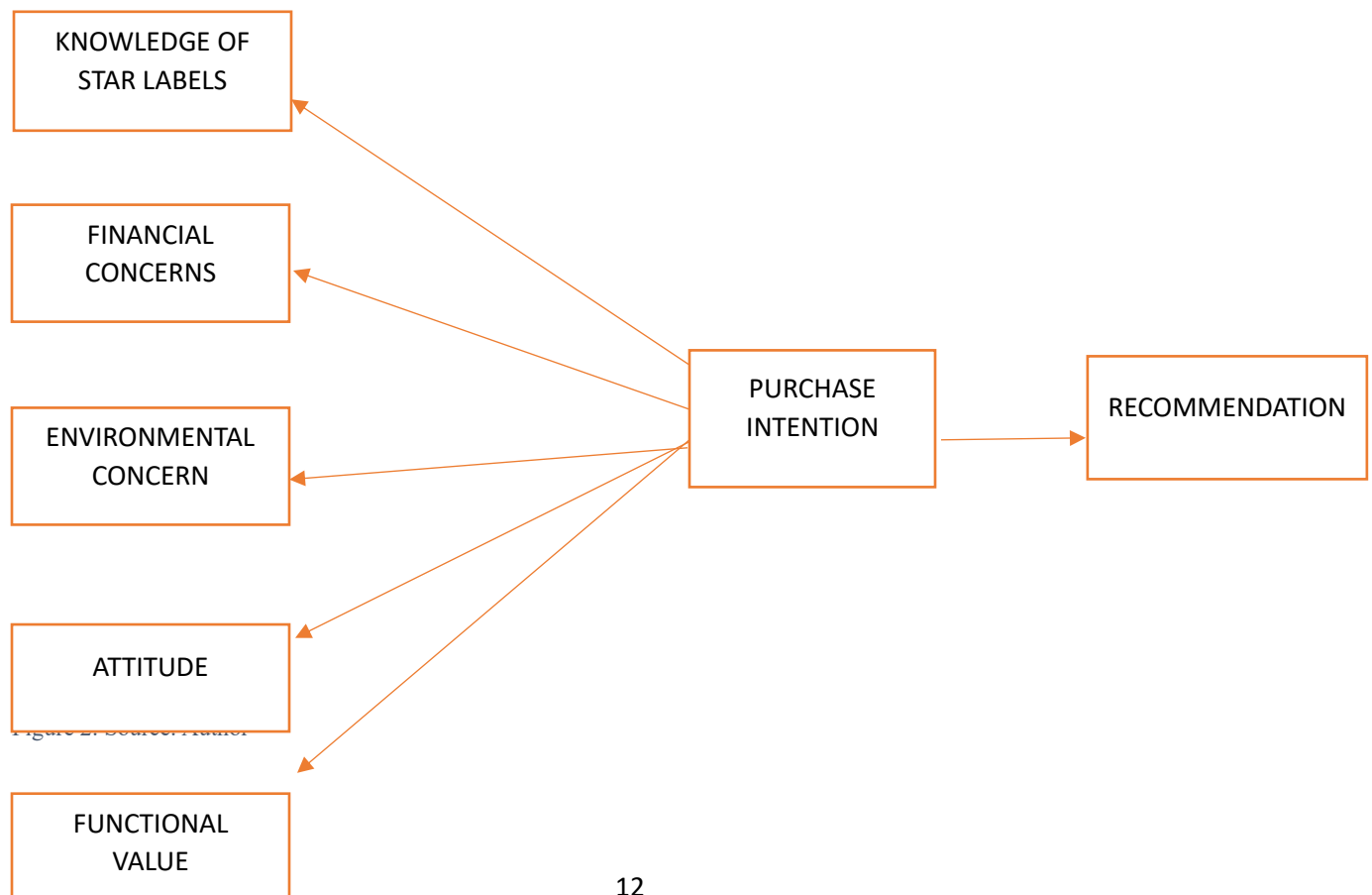
Surfing across various kinds of literature available on the factors that drive consumers to purchase green products suggests that the above drivers of change can positively influence the buying

behavior of a consumer toward energy-efficient appliances. (Agrawal et al., n.d.; Fatoki, 2020b; Li et al., 2021; Waris & Hameed, 2020c) The primary focus of this study is to evaluate the antecedents of consumers' purchase intention of BLDC Motor fans and to understand what motivates the consumers to make a switch from non-star-labeled products to green products. A noticeable gap was observed throughout the literature on green products purchase behavior based on the theory of planned behavior that financial concern as an antecedent has not been studied in this context and this study will take into consideration the factor of financial concern as an antecedent of purchase intention of BLDC Motor fans.

H0: Financial concerns will not positively influence consumer's purchase intention.

H1: Financial concerns will positively influence consumer's purchase intention.

The Concept Framework:



Gaps identified throughout the study

It has been observed that most researchers have focus only on factors such as knowledge, attitude, functional value, etc. and there have been very little data available on the aspect of financial concerns that affect the purchase intention of consumers towards green products. Hence this research aims to carefully evaluate the construct of financial concern and its relation with the purchase intention of energy-efficient appliances further its effect on whether the consumers intend on recommending the usage and purchase of energy-efficient appliances to others.

The Objectives of the study are as follows:

1. The purpose of this study is to evaluate the antecedents of consumer's purchase intention of BLDC Motor Fans.
2. To Determine the awareness level of BLDC Motor Fans among residential consumers.

Research Questions:

1. What are the factors that influence the purchase intention of consumers of BLDC Motor fans?
2. Are the consumers aware of the star labeling on ceiling fans?

METHODOLOGY

To achieve the results of this study, an extended model of Theory of Planned Behavior has been used where in the constructs of Knowledge of Star Labels, Attitude, Financial Concerns, Environmental Concerns have been studied to evaluate the Purchase Intention of the consumers. The constructs have been formulated with the help of the literatures such as (Dincă et al., 2022; Fatoki, 2020a; Li et al., 2021; Pdf&rendition=1, n.d.; Waris & Hameed, 2020b) To test and interpret the results of the study the software SPSS has been used to run tests such as reliability of data and correlation to test the hypothesis.

Sample and Data Collection

A self-administered questionnaire has been used to collect the data from the targeted representatives of the population. While defining the sample for this study the following criteria was taken into consideration: the respondent should be having appropriate awareness about the availability of green products in the market and should have the minimum level of education required to understand the complexity of the questionnaire therefore the sampling technique of Convenience Sampling was used. The questionnaire consists of two sections, section 1 comprises of the demographics questions whereas section 2 comprises of the likert scale questions. The second section of the questionnaire has statements under each construct to be rated on a scale of 1 to 7 where 1-Strongly Disagree, 2-Disagree, 3-Somewhat Disagree, 4-Neutral, 5-Somewhat Agree, 6-Agree and 7-Strongly Agree. The questionnaire was designed after a careful review of various literatures in the context of green purchases.

Measurement

Items as seen in the annexure to measure the constructs were adopted from literatures such as (Agrawal et al., n.d.; Bhutto et al., 2021; Dincă et al., 2022; Fatoki, 2020a; Kumar & Ghodeswar, 2015; Li et al., 2021; Mishal et al., 2017; Waris & Hameed, 2020b, 2020d)

DATA ANALYSIS

Respondents Profile

	Frequency	Percentage
Age		
18 – 25	40	36.04
26 - 35	31	27.93
36 - 45	18	16.22
46- 55	15	13.51
56 - 65	4	3.60
Above 65	3	2.70
Total	110	100
Gender		
Male	57	51.35
Female	53	47.75
Total	110	100
Occupation		
Employed	44	39.64
Unemployed	12	10.81
Self-Employed	21	18.92
Retired	7	6.31

Student	27	24.32
Total	110	100
Education		
10 th	1	0.90
12 th	10	9.01
Diploma	11	9.91
Graduation	65	58.56
Post-Graduation	19	17.12
PhD	5	4.50
Total	110	100
Income		
Below 2.5 Lakhs	19	17.12
2.5 Lakhs – 5 Lakhs	33	29.73
5 Lakhs – 7.5 Lakhs	31	27.93
7.5 Lakhs – 10 Lakhs	17	15.32
Above 10 Lakhs	11	9.91
Total	110	100

Figure 2: Respondent's Profile

The highest number of respondents which is 40 were from the age group of 18 – 25 years, 31 respondents were from the age group of 26 – 35 years, 18 respondents were from the age group of

36 – 45 years, 15 respondents were from the age group of 46 – 55 years, 4 respondents were from the age group of 56 – 65 years and only 3 respondents were from the age group of above 65 years out of the total 110 respondents.

Out of the total 110 respondents, 57 respondents were male and the remaining 53 respondents were female.

44 respondents were employed, 27 respondents were students, 21 respondents were self-employed, 12 respondents were unemployed and only 7 respondents were retired.

Out of 110 respondents, 65 respondents answered graduation, 19 respondents answered post-graduation, 11 respondents answered diploma, 10 respondents answered 12th standard, 5 respondents answered PhD and only 1 respondent answered 10th standard as their highest level of education.

33 respondents fell into the family income bracket of 2.5 lakhs to 5 lakhs per annum, 31 respondents fell into the family income bracket of 5 lakhs to 7.5 lakhs per annum, 19 respondents fell into the family income bracket of below 2.5 lakhs per annum and 17 respondents fell into the family income bracket of 7.5 lakhs to 10 lakhs per annum and 11 respondents fell into the family income group of above 10 lakhs per annum out of the total 110 respondents.

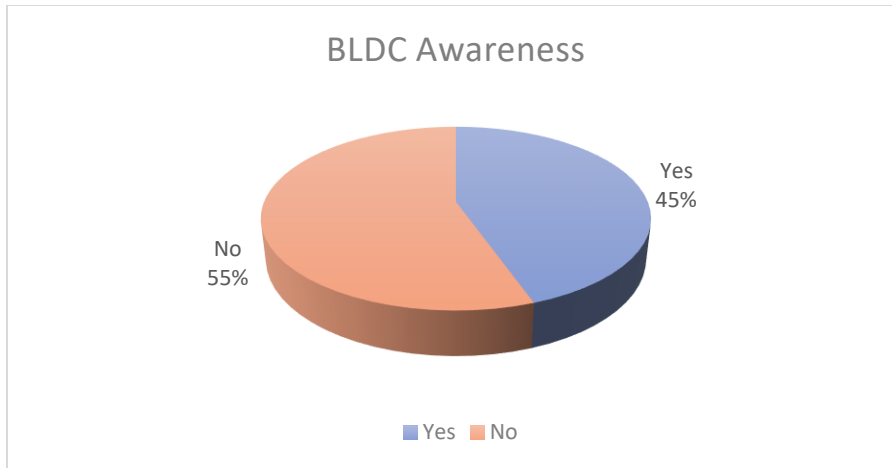


Figure 3: Pie-Chart indicating BLDC awareness among respondents

As seen from the above pie chart 45% of the respondents are aware of the BLDC motor fans and a majority of 55% out of the total respondents are not aware of the BLDC Motor fans.

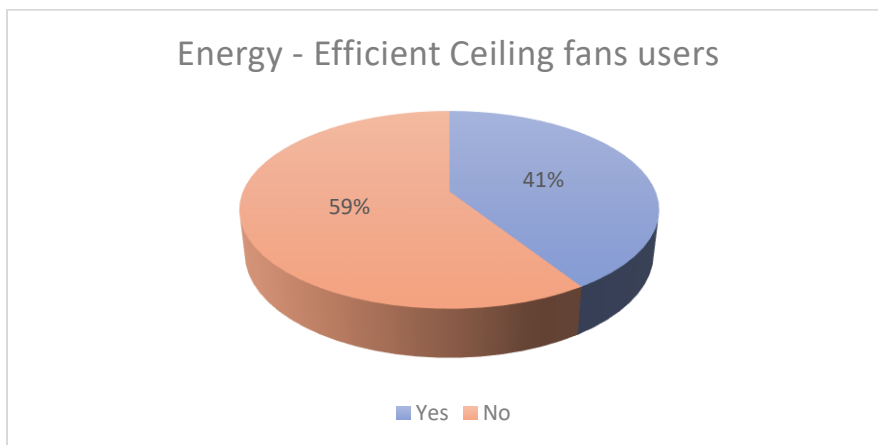


Figure 4: Pie-Chart indicating energy-efficient ceiling fans usage among respondents

As seen in the above pie chart 41% of the respondents have installed energy-efficient ceiling fans in their homes whereas 59% of the respondents do not have energy-efficient ceiling fans installed in their homes.

Construct	Items	1	2	3	4	5	6	7
Knowledge	K1	3	1	5	6	8	36	51
	K2	1	2	1	5	16	39	46
	K3	1	3	10	6	32	39	19
	K4	1	5	3	10	27	34	30
	K5	0	6	11	20	24	26	23
	K6	2	7	6	16	26	31	22
Financial Concern	FC1	0	2	8	9	28	34	29
	FC2	1	12	10	11	21	33	22
	FC3	0	5	6	18	22	40	19
	FC4	2	7	7	12	25	30	27
	FC5	2	5	10	14	29	30	20
Attitude	A1	1	4	7	9	25	38	26
	A2	2	1	5	17	29	34	22
	A3	1	0	5	13	30	36	25
	A4	2	3	2	10	37	34	22
	A5	1	2	5	20	28	30	24
	A6	1	4	3	16	29	34	23
	A7	1	2	4	11	36	35	21
	A8	2	2	8	16	27	35	20
	A9	2	4	8	12	31	33	20
	A10	2	1	2	19	26	36	24
	A11	1	3	4	14	31	28	29
Environmental Concern	EC1	0	0	3	16	24	40	27

	EC2	0	1	11	13	23	36	26
	EC3	2	2	6	11	23	29	37
	EC4	1	3	15	16	24	36	15
	EC5	1	4	5	5	19	41	35
	EC6	3	1	6	8	22	40	30
	EC7	2	3	4	9	15	47	30
Functional Value	FV1	0	3	4	21	26	37	19
	FV2	0	1	10	16	21	40	22
	FV3	2	2	4	19	18	43	22
	FV4	3	0	9	22	20	36	20
	FV5	3	0	8	15	22	38	24
	FV6	1	5	4	20	29	34	17
Purchase Intention	PI1	5	5	3	11	9	35	42
	PI2	8	1	5	7	20	49	20
	PI3	5	3	5	13	18	31	35
	PI4	6	2	5	11	18	45	23
	PI5	5	4	5	8	17	34	37
	PI6	6	3	4	9	24	43	21
	PI7	4	4	5	10	17	38	32
	PI8	6	2	5	7	17	45	28
Recommendation	R1	0	2	2	10	19	51	26
	R2	3	0	4	13	23	40	27

Figure 5: Survey responses

As it can be seen in the above table, Under the first construct which is *knowledge*, under the first item K1, 3 respondents have strongly disagreed to the statement, 1 respondent has disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 6 respondents have given a neutral response to the statement, 8 respondents have somewhat agreed to the statement, 36 respondents have agreed to the statement and 51 respondents have strongly agreed to the statement. For the second item K2, 1 respondent has strongly disagreed to the statement, 2 respondents have disagreed to the statement, 1 respondent has somewhat disagreed to the statement, 5 respondents have given a neutral response to the statement, 16 respondents have somewhat agreed to the statement, 39 respondents have agreed to the statement and 46 respondents have strongly agreed to the statement. For the third item K3, 1 respondent has strongly disagreed to the statement, 3 respondents have disagreed to the statement, 10 respondents have somewhat disagreed to the statement, 6 respondents have given a neutral response to the statement, 32 respondents have somewhat agreed to the statement, 39 respondents have agreed to the statement and 19 respondents have strongly agreed to the statement. For the fourth item K4, 1 respondent has strongly disagreed to the statement, 5 respondents have disagreed to the statement, 3 respondents have somewhat disagreed to the statement, 10 respondents have given a neutral response to the statement, 27 respondents have somewhat agreed to the statement, 34 respondents have agreed to the statement and 30 respondents have strongly agreed to the statement. For the fifth item K5, none of the respondents have strongly disagreed to the statement, 6 respondents have disagreed to the statement, 11 respondents have somewhat disagreed to the statement, 20 respondents have given a neutral response to the statement, 24 respondents have somewhat agreed to the statement, 26 respondents have agreed to the statement and 23 respondents have strongly agreed to the statement. For the sixth item K6, 2 respondents have strongly disagreed to the statement, 7 respondents have

disagreed to the statement, 6 respondents have somewhat disagreed to the statement, 16 respondents have given a neutral response to the statement, 26 respondents have somewhat agreed to the statement, 31 respondents have agreed to the statement and 22 respondents have strongly agreed to the statement.

Under the second construct which is *financial concern*, for the first item FC1, none of the respondents have strongly disagreed to the statement, 2 respondents have disagreed to the statement, 8 respondents have somewhat disagreed to the statement, 9 respondents have given a neutral response to the statement, 28 respondents have somewhat agreed to the statement, 34 respondents have agreed to the statement and 29 respondents have strongly agreed to the statement. For the second item FC2, 1 respondent has strongly disagreed to the statement, 12 respondents have disagreed to the statement, 10 respondents have somewhat disagreed to the statement, 11 respondents have given a neutral response to the statement, 21 respondents have somewhat agreed to the statement, 33 respondents have agreed to the statement and 22 respondents have strongly agreed to the statement. For the third item FC3, none of the respondents have strongly disagreed to the statement, 5 respondents have disagreed to the statement, 6 respondents have somewhat disagreed to the statement, 18 respondents have given a neutral response to the statement, 22 respondents have somewhat agreed to the statement, 40 respondents have agreed to the statement and 19 respondents have strongly agreed to the statement. For the fourth item FC4, 2 respondents have strongly disagreed to the statement, 7 respondents have disagreed to the statement, 7 respondents have somewhat disagreed to the statement, 12 respondents have given a neutral response to the statement, 25 respondents have somewhat agreed to the statement, 30 respondents have agreed to the statement and 27 respondents have strongly agreed to the statement. For the fifth item FC5, 2 respondents have strongly disagreed to the statement, 5 respondents have

disagreed to the statement, 10 respondents have somewhat disagreed to the statement, 14 respondents have given a neutral response to the statement, 29 respondents have somewhat agreed to the statement, 30 respondents have agreed to the statement and 20 respondents have strongly agreed to the statement.

Under the third construct which is *attitude*, for the first item A1, 1 respondent has strongly disagreed to the statement, 4 respondents have disagreed to the statement, 7 respondents have somewhat disagreed to the statement, 9 respondents have given a neutral response to the statement, 25 respondents have somewhat agreed to the statement, 38 respondents have agreed to the statement and 26 respondents have strongly agreed to the statement. For the second item A2, 2 respondents have strongly disagreed to the statement, 1 respondent has disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 17 respondents have given a neutral response to the statement, 29 respondents have somewhat agreed to the statement, 34 respondents have agreed to the statement and 22 respondents have strongly agreed to the statement. For the third item A3, 1 respondent has strongly disagreed to the statement, none of the respondents have disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 13 respondents have given a neutral response to the statement, 30 respondents have somewhat agreed to the statement, 36 respondents have agreed to the statement and 25 respondents have strongly agreed to the statement. For the fourth item A4, 2 respondents have strongly disagreed to the statement, 3 respondents have disagreed to the statement, 2 respondents have somewhat disagreed to the statement, 10 respondents have given a neutral response to the statement, 37 respondents have somewhat agreed to the statement, 34 respondents have agreed to the statement and 22 respondents have strongly agreed to the statement. For the fifth item A5, 1 respondent has strongly disagreed to the statement, 2 respondents have disagreed to the statement, 5 respondents have

somewhat disagreed to the statement, 20 respondents have given a neutral response to the statement, 28 respondents have somewhat agreed to the statement, 30 respondents have agreed to the statement and 24 respondents have strongly agreed to the statement. For the sixth item A6, 1 respondent has strongly disagreed to the statement, 4 respondents have disagreed to the statement, 3 respondents have somewhat disagreed to the statement, 16 respondents have given a neutral response to the statement, 29 respondents have somewhat agreed to the statement, 34 respondents have agreed to the statement and 23 respondents have strongly agreed to the statement. For the seventh item A7, 1 respondent has strongly disagreed to the statement, 2 respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 11 respondents have given a neutral response to the statement, 36 respondents have somewhat agreed to the statement, 35 respondents have agreed to the statement and 21 respondents have strongly agreed to the statement. For the eighth item A8, 2 respondents have strongly disagreed to the statement, 2 respondents have disagreed to the statement, 8 respondents have somewhat disagreed to the statement, 16 respondents have given a neutral response to the statement, 27 respondents have somewhat agreed to the statement, 35 respondents have agreed to the statement and 20 respondents have strongly agreed to the statement. For the ninth item A9, 2 respondents have strongly disagreed to the statement, 4 respondents have disagreed to the statement, 8 respondents have somewhat disagreed to the statement, 12 respondents have given a neutral response to the statement, 31 respondents have somewhat agreed to the statement, 33 respondents have agreed to the statement and 20 respondents have strongly agreed to the statement. For the tenth item A10, 2 respondents have strongly disagreed to the statement, 1 respondent has disagreed to the statement, 2 respondents have somewhat disagreed to the statement, 19 respondents have given a neutral response to the statement, 26 respondents have somewhat agreed to the statement, 36 respondents

have agreed to the statement and 24 respondents have strongly agreed to the statement and for the eleventh item A11, 1 respondent has strongly disagreed to the statement, 3 respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 14 respondents have given a neutral response to the statement, 31 respondents have somewhat agreed to the statement, 28 respondents have agreed to the statement and 29 respondents have strongly agreed to the statement.

Under the fourth construct which is *environmental concern*, for the first item EC1, none of respondents have strongly disagreed to the statement, none of the respondents have disagreed to the statement, 3 respondents have somewhat disagreed to the statement, 16 respondents have given a neutral response to the statement, 24 respondents have somewhat agreed to the statement, 40 respondents have agreed to the statement and 27 respondents have strongly agreed to the statement. For the second item EC2, none of the respondents have strongly disagreed to the statement, 1 respondent has disagreed to the statement, 11 respondents have somewhat disagreed to the statement, 13 respondents have given a neutral response to the statement, 23 respondents have somewhat agreed to the statement, 36 respondents have agreed to the statement and 15 respondents have strongly agreed to the statement. For the third item EC3, 2 respondents have strongly disagreed to the statement, 2 respondents have disagreed to the statement, 6 respondents have somewhat disagreed to the statement, 11 respondents have given a neutral response to the statement, 23 respondents have somewhat agreed to the statement, 29 respondents have agreed to the statement and 37 respondents have strongly agreed to the statement. For the fourth item EC4, 1 respondent has strongly disagreed to the statement, 3 respondents have disagreed to the statement, 15 respondents have somewhat disagreed to the statement, 16 respondents have given a neutral response to the statement, 24 respondents have somewhat agreed to the statement, 36

respondents have agreed to the statement and 15 respondents have strongly agreed to the statement. For the fifth item EC5, 1 respondent has strongly disagreed to the statement, 4 respondents have disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 5 respondents have given a neutral response to the statement, 19 respondents have somewhat agreed to the statement, 41 respondents have agreed to the statement and 35 respondents have strongly agreed to the statement. For the sixth item EC6, 3 respondents have strongly disagreed to the statement, 1 respondent has disagreed to the statement, 6 respondents have somewhat disagreed to the statement, 8 respondents have given a neutral response to the statement, 22 respondents have somewhat agreed to the statement, 40 respondents have agreed to the statement and 30 respondents have strongly agreed to the statement. For the seventh item EC7, 2 respondents have strongly disagreed to the statement, 3 respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 9 respondents have given a neutral response to the statement, 15 respondents have somewhat agreed to the statement, 47 respondents have agreed to the statement and 30 respondents have strongly agreed to the statement.

Under the fifth construct which is *functional value*, for the first item which is FV1, none of the respondents have strongly disagreed to the statement, 3 respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 21 respondents have given a neutral response to the statement, 26 respondents have somewhat agreed to the statement, 37 respondents have agreed to the statement and 19 respondents have strongly agreed to the statement. For the second item FV2, none of the respondents have strongly disagreed to the statement, 1 respondent has disagreed to the statement, 10 respondents have somewhat disagreed to the statement, 16 respondents have given a neutral response to the statement, 21 respondents have somewhat agreed to the statement, 40 respondents have agreed to the statement and 22 respondents

have strongly agreed to the statement. For the third item FV3, 2 respondents have strongly disagreed to the statement, 2 respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 19 respondents have given a neutral response to the statement, 18 respondents have somewhat agreed to the statement, 43 respondents have agreed to the statement and 22 respondents have strongly agreed to the statement. For the fourth item FV4, 3 respondents have strongly disagreed to the statement, none of the respondents have disagreed to the statement, 9 respondents have somewhat disagreed to the statement, 22 respondents have given a neutral response to the statement, 20 respondents have somewhat agreed to the statement, 36 respondents have agreed to the statement and 20 respondents have strongly agreed to the statement. For the fifth item FV5, 3 respondents have strongly disagreed to the statement, none of the respondents have disagreed to the statement, 8 respondents have somewhat disagreed to the statement, 15 respondents have given a neutral response to the statement, 22 respondents have somewhat agreed to the statement, 38 respondents have agreed to the statement and 24 respondents have strongly agreed to the statement. For the sixth item FV6, 1 respondent has strongly disagreed to the statement, 5 respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 20 respondents have given a neutral response to the statement, 29 respondents have somewhat agreed to the statement, 34 respondents have agreed to the statement and 17 respondents have strongly agreed to the statement.

Under the sixth construct which is *purchase intention*, for the first item PI1, 5 respondents have strongly disagreed to the statement, 5 respondents have disagreed to the statement, 3 respondents have somewhat disagreed to the statement, 11 respondents have given a neutral response to the statement, 9 respondents have somewhat agreed to the statement, 35 respondents have agreed to the statement and 42 respondents have strongly agreed to the statement. For the second item PI2,

8 respondents have strongly disagreed to the statement, 1 respondent has disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 7 respondents have given a neutral response to the statement, 20 respondents have somewhat agreed to the statement, 49 respondents have agreed to the statement and 20 respondents have strongly agreed to the statement. For the third item PI3, 5 respondents have strongly disagreed to the statement, 5 respondents have disagreed to the statement, 3 respondents have somewhat disagreed to the statement, 11 respondents have given a neutral response to the statement, 9 respondents have somewhat agreed to the statement, 35 respondents have agreed to the statement and 42 respondents have strongly agreed to the statement. For the fourth item PI4, 6 respondents have strongly disagreed to the statement, 2 respondents have disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 11 respondents have given a neutral response to the statement, 18 respondents have somewhat agreed to the statement, 45 respondents have agreed to the statement and 23 respondents have strongly agreed to the statement. For the fifth item PI5, 5 respondents have strongly disagreed to the statement, 4 respondents have disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 10 respondents have given a neutral response to the statement, 17 respondents have somewhat agreed to the statement, 38 respondents have agreed to the statement and 32 respondents have strongly agreed to the statement. For the sixth item PI6, 6 respondents have strongly disagreed to the statement, 3 respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 9 respondents have given a neutral response to the statement, 24 respondents have somewhat agreed to the statement, 43 respondents have agreed to the statement and 21 respondents have strongly agreed to the statement. For the seventh item PI7, 4 respondents have strongly disagreed to the statement, 4 respondents have disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 10

respondents have given a neutral response to the statement, 17 respondents have somewhat agreed to the statement, 38 respondents have agreed to the statement and 32 respondents have strongly agreed to the statement. For the eight item PI8, 6 respondents have strongly disagreed to the statement, 2 respondents have disagreed to the statement, 5 respondents have somewhat disagreed to the statement, 7 respondents have given a neutral response to the statement, 17 respondents have somewhat agreed to the statement, 45 respondents have agreed to the statement and 28 respondents have strongly agreed to the statement.

Under the seventh construct which is *recommendation*, for the first item R1, none of the respondents have strongly disagreed to the statement, 2 respondents have disagreed to the statement, 2 respondents have somewhat disagreed to the statement, 10 respondents have given a neutral response to the statement, 19 respondents have somewhat agreed to the statement, 51 respondents have agreed to the statement and 26 respondents have strongly agreed to the statement. For the second item R2, 3 respondents have strongly disagreed to the statement, none of the respondents have disagreed to the statement, 4 respondents have somewhat disagreed to the statement, 13 respondents have given a neutral response to the statement, 23 respondents have somewhat agreed to the statement, 40 respondents have agreed to the statement and 27 respondents have strongly agreed to the statement.

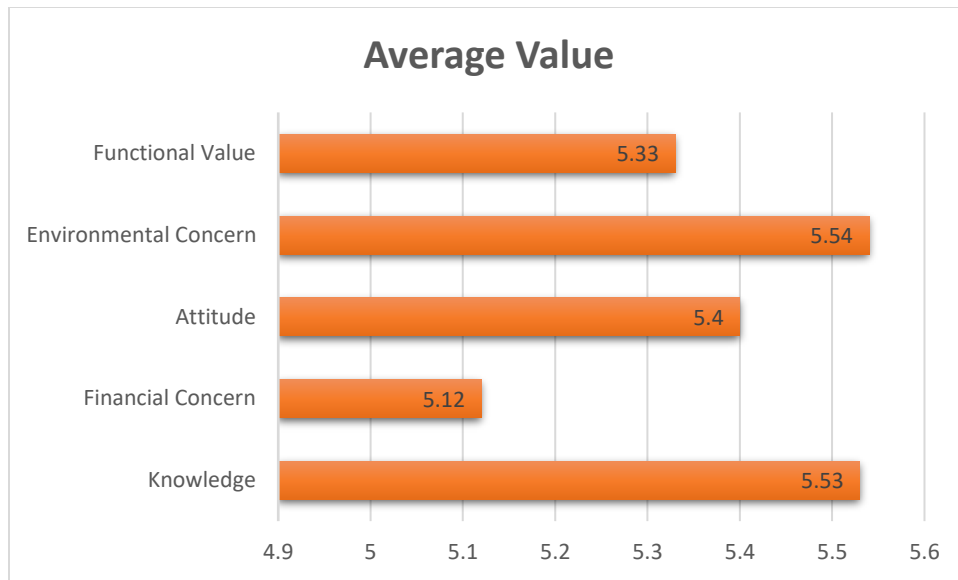


Figure 6: Average responses of respondents for each construct

As seen in the above chart the construct of *functional value* has an average response of 5.33, the construct of environmental concern has an average value of 5.54, the construct of attitude has an average value of 5.4, the construct of financial concern has an average value of 5.12 and the construct of knowledge has an average value of 5.53.

Reliability

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.960	.962	54

Figure 7: Reliability Test

As seen in the above table, the Cronbach's Alpha value is 0.96 which means that the data is highly reliable.

Hypothesis Assessment

H0: Knowledge of star labeling will not positively influence consumer's purchase intention

H1: Knowledge of star labeling will positively influence consumer's purchase intention.

Correlations

		Knowledge	Purchase Intention
Knowledge	Pearson Correlation	1	.354**
	Sig. (2-tailed)		.000
	N	110	110

Purchase Intention	Pearson Correlation	.354**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

Figure 8: Correlation between Knowledge and Purchase Intention

As seen in the above table, the *Pearson's Correlation Value* is 0.34 and the significance value is 0.00 which means that there is a relationship between the two variables therefore we reject the Null Hypothesis and accept H1

H0: Attitude toward energy-efficient fans will not positively influence consumer's purchase intention.

H1: Attitude toward energy-efficient fans will positively influence consumer's purchase intention.

Correlations

		Attitude	Purchase Intention
Attitude	Pearson Correlation	1	.397**
	Sig. (2-tailed)		.000
	N	110	110
Purchase Intention	Pearson Correlation	.397**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

Figure 9: Correlation between Attitude and Purchase Intention

As seen in the above table, the *Pearson's Correlation Value* is 0.397 and the significance value is 0.00 which means that there is a relationship between the two variables therefore we reject the Null Hypothesis and accept H1

H0: Environmental Concerns will not positively influence consumer's purchase intention.

H1: Environmental Concerns will positively influence consumer's purchase intention.

Correlations

		Environmental Concern	Purchase Intention
Environmental Concern	Pearson Correlation	1	.401**
	Sig. (2-tailed)		.000
	N	110	110
Purchase Intention	Pearson Correlation	.401**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

Figure 10: Correlation between Environmental Concern and Purchase Intention

As seen in the above table, the *Pearson's Correlation Value* is 0.401 and the significance value is 0.00 which means that there is a relationship between the two variables therefore we reject the Null Hypothesis and accept H1

H0: Functional Value will not positively influence consumer's purchase intention.

H1: Functional Value will positively influence consumer's purchase intention.

.

Correlations

		Functional Value	Purchase Intention
Functional Value	Pearson Correlation	1	.417**
	Sig. (2-tailed)		.000
	N	110	110
Purchase Intention	Pearson Correlation	.417**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

Figure 11: Correlation between Functional Value and Purchase Intention

As seen in the above table, the *Pearson's Correlation Value* is 0.417 and the significance value is 0.00 which means that there is a relationship between the two variables therefore we reject the Null Hypothesis and accept H1

H0: Financial concerns will not positively influence consumer's purchase intention.

H1: Financial concerns will positively influence consumer's purchase intention.

Correlations

		Financial Concern	Purchase Intention
Financial Concern	Pearson Correlation	1	.310**
	Sig. (2-tailed)		.001
	N	110	110
Purchase Intention	Pearson Correlation	.310**	1
	Sig. (2-tailed)	.001	
	N	110	110

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

Figure 12: Correlation between Financial Concern and Purchase Intention

As seen in the above table, the *Pearson's Correlation Value* is 0.310 and the significance value is 0.00 which means that there is a relationship between the two variables therefore we reject the Null Hypothesis and accept H1

FINDINGS

As it can be interpreted from the above data majority of the respondents are unaware of the BLDC Star labelling in ceiling fans and majority of the respondents also do not have energy-efficient ceiling fans installed in their homes which means that there is a lack of awareness among consumers regarding the availability of star labelled energy-efficient ceiling fans resulting in lack of purchase of the same. Interpreting from *figure 6*, the constructs which have the highest average value are Environmental Concern, Knowledge and Attitude which suggest that the respondents are highly environmentally concerned, they have a favorable attitude towards the use of energy-efficient ceiling fans. The Hypothesis assessment we can see that there is an association between Environmental concern and Purchase, Attitude and Purchase Intention, Knowledge and Purchase Intention, Functional Value and Purchase Intention and Financial Concern and Purchase Intention which means that as the environmental concern, favorable attitude, Knowledge of star labels, Functional value of appliances, and financial concern among consumer increases it will also result in an increased purchased intention towards Energy-Efficient ceiling Fans among Consumers and vice versa. Even though there was an association between the independent variables i.e. environmental concern, attitude, knowledge of star labels, functional value and financial concern and dependent variable i.e. purchase intention, the association seems to be weak to moderate association. None of the dependent variables seem to have a strong association with the dependent variable which means that a single antecedent does not result in the purchase intention of consumers towards energy-efficient ceiling fans and from this it can be concluded that manufactures need to promote their products by combining the benefits of all the antecedents.

CONCLUSION

The primary aim of this study was to evaluate the different factors that motivate consumers to purchase products which are energy-efficient. During the course of the study various factors were investigated that were said to have a certain level of influence on the consumers purchase intentions and based on the results of the study it can be concluded that antecedents such as Knowledge of star labels, Attitude and Environmental Concerns lead to purchase intention of consumers towards energy-efficient appliances. The construct of environmental concern had the highest average of responses which indicates that it makes the highest amount of impact on the purchase behavior of consumers followed by knowledge and attitude. The antecedents were also found to be moderately associated with each other which also means that antecedents such as environmental concern and knowledge will increase in the society regarding the energy-efficient appliances it will also result in the purchase intention towards energy-efficient appliances in the society. One of the drawbacks that were noticed in the study is that majority of the respondents were unaware of the BLDC star rating in ceiling fans hence the number of users of energy-efficient fans were also seen to be lower in the responses collected.

RECOMMENDATIONS

- The company should promote Aeiry Fans into the market by stating the features that appeal to the environmentally concerned segment of the customers as the antecedent of environmental concern had the highest value of average responses.
- The company should spread more awareness among the consumers of ceiling fans as there is a lack of BLDC star labelled ceiling fans and their benefits among the consumers.
- The company should focus on promoting the key benefits of energy-efficient fans and also voice out the negative impact of non-star labelled electronic appliances and their hazardous impact on the environment as well the financial aspects of the consumers.
- The company can also provide customers with a buy-back policy for their existing fans installed in their homes as it can act as an added incentive to purchase Aeiry Fans.
- The marketers need to combine the awareness, functional value, financial benefits along with environmental concerns while promoting the product as merely promoting any one of the benefits will not result in increased purchase intentions among the consumers.

WORK DONE AND LEARNINGS DERIVED

During the period of my internship the work activities that I participated in were:

- Prospecting new clients

One of the responsibilities that were to me during my internship was prospecting new sales leads to pitch Aeiry Fans. I had to meet up with dealers of electronics which included retailers and wholesalers and hotels excluding 4- and 5-star hotels.

- Interviewing potential customers and B2B clients such as retailers, wholesalers, hotels.

I was also required to interview the electronics dealers including retailers and wholesalers and gather information regarding the competitive brands they sell, the price range of competitors, which is the most preferred competitive brand and the manufacturing faults and complaints experienced by the customers of competitors.

- Approaching potential customers and clients and pitching the product.
- Generated leads
- Cold calling dealers of electronics shops operating in and around the Mapusa City.

The learnings derived are as follows:

- How the fan components are manufactured

In the manufacturing unit I witnessed the flow of activities involved in manufacturing, assembling, testing, packaging and dispatching of the product.

- I learnt various techniques of handling rejection while pitching the product and also had an experience of putting the techniques into practice.

- I also got to learn the process of personal selling in a practical form and put it into practice while undertaking the responsibilities assigned to me during my internship.
- I learnt how to operate the SPSS software and interpret data derived through the survey.
- I also received practical training on how to go about during field sales and make pitches.
- The learnings I derived while conducting the research projects are:
 - i) How to use the available data bases and gather information that is required for the study.
 - ii) How to formulate constructs and narrow them down based on the literatures from previous authors, judgements from knowledgeable individuals such as company and college mentors.
 - iii) How to formulate questionnaire for survey.
 - iv) How to analyze and interpret data to form concrete conclusion and recommendations.

ANNEXURE

Please rate the below mentioned statements on a scale of 1 to 5 each where 1-Strongly Disagree, 2-disagree, 3-Neutral, 4-Agree and 5-Strongly Agree							
	1	2	3	4	5	6	7
Knowledge of Star-Labels							
I know the meaning of the term recycled							
I know the meaning of the term eco-friendly							
I prefer to check the eco-labels and certifications on energy-efficient fans before I purchase.							
I know the meaning of the term energy-efficient							
I understand the environmental phrases and symbols on product package.							
I want to have a deeper insight of the inputs, processes and impacts of appliances before I purchase.							
Financial Concerns							
I believe using energy-efficient fans will reduce my electricity bill							
I am willing to make a more costly investment for a more complex upgrade on my home that will save energy and money over time							
I believe that using an energy-efficient fan will give me extra value							
I am willing to make low-cost, energy-efficient upgrades in my home							
I am willing to pay more for energy-saving fans with higher energy efficiency							
Attitude							
I like the idea of energy-efficient fans							
I have a favorable attitude toward purchasing energy-efficient fans							
Purchasing energy-efficient fans is a good idea.							
I consider the purchase of energy-efficient fans favorable							
I consider the purchase of energy-efficient fans desirable							
I consider the purchase of energy-efficient fans pleasant							
I consider the purchase of energy-efficient fans positive							

I consider the purchase of energy-efficient fans positive							
Environmental protection is important to me when making purchases of fans.							
Energy-efficient fans are important to save natural resources that would be used for producing energy.							
If I can choose between energy-efficient and conventional appliances, I prefer energy-efficient appliances.							
Environmental protection is important to me when making purchases.							
If I can choose between energy-efficient household appliances and conventional products, I prefer energy-efficient ones.							
Environmental Concerns							
I am very concerned about the environment.							
I would be willing to reduce my consumption to help protect the environment.							
I think environmental issues are becoming more serious in recent years.							
I take into account environmental consequences when I buy an appliance.							
I think we should live in harmony with the environment for achieving sustainable development.							
I am concerned about climate change.							
I am concerned about natural resources depletion.							
Functional Value							
Energy-efficient fans are good products for the price							
Energy-efficient fans are economical for the attributes they offer							
Energy-efficient fans have an expectable standard quality							
Energy-efficient fans are made from non-hazardous substances							
Energy-efficient fans can meet my product requirements.							
Energy-efficient fans have high utility.							
Purchase Intention							
If I need to buy a household appliance such as air-conditioner, flat television, refrigerator, washing machine and water heater:							
I intend to buy an energy-efficient appliance.							
I intend to buy the energy-efficient appliance with a lower energy efficiency grade (better energy-saving effect)							

I am willing to pay a slightly higher price for energy-saving appliance							
I am going to buy more energy-efficient appliances							
I intend to buy an energy efficient appliance							
I am willing to buy energy-efficient appliances if I need to have home appliances							
I plan to buy appliances with better energy efficiency							
I intend to buy appliances with better energy efficiency.							
Recommendations							
I will suggest my families, friends and colleagues to buy energy-efficient appliances.							
I recommend others use energy-saving products in their houses .							

Age:

- ☐ 20-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ Above 60

Gender:

- ☐ Male
- ☐ Female
- ☐ Other

Education:

- ☐ 10th
- ☐ 12th
- ☐ Diploma
- ☐ Graduation
- ☐ Post-graduation
- ☐ PhD

Employment status:

- ☐ Employed
- ☐ Self employed
- ☐ Unemployed
- ☐ Student
- ☐ Retired

No of family Members:

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ Above 5

Family Income Per Annum:

- ☐ Below 2.5 Lakhs
- ☐ 2.5 Lakhs – 5 Lakhs
- ☐ 5 Lakhs – 7.5 Lakhs
- ☐ 7.5 Lakhs – 10 Lakhs
- ☐ Above 10 Lakhs

No. of fans currently installed _____

Are you aware of the BLDC star rating in ceiling fans?

- ☐ Yes
- ☐ No

Do you have energy efficient ceiling fans installed in your home?

- ☐ Yes
- ☐ No

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