


THE THEORY OF PLANNED BEHAVIOUR AND EXAMINING CONSUMER PURCHASE BEHAVIOURS OF ENERGY-EFFICIENT LIGHTING PRODUCTS

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| ARTICLE INFO | <u>ABSTRACT</u> |
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| <p>Article history:</p> <p>Received 30 Dezember 2021</p> <p>Accepted 07 February 2022</p> | <p>Purpose:This study aims to determine what factors influence consumers; desire to buy led lamps in kerala. an sem model was used to examine the factors influencing the desire to buy led lights. there are 15 reasons to switch to led lights. there were 200 responses from shoppers, and the study looked at customers &; intentions toward leds. the structural equation model assessed four assumptions. in conclusion, customers &; attitudes and perceived control over their behavior are unrelated to their purchase intent, although subjective norms and purchase behavior are related. the data suggest that rather than their mood and perceived behavior determining their purchase behavior, and their purchasing intent dictating their purchase behaviour.</p> |
| <p>Keywords:</p> <p>LED Lamps; Structural Equation Model; Their Purchase Behaviour.</p> <div data-bbox="172 1003 480 1249" style="text-align: center;">  </div> | <p>Theoretical framework: The adoption of led lighting has affected household energy consumption and the necessary psychological determinants of electricity use. however, this study uses the theory of planned behavior to explain customer intentions and behavior. in comparison, research has to understand better the features and dynamics of energy use and pro-environmental behavior and the impact of energy efficiency initiatives. there has been little study on the effect of such programs on energy behavior. to examine which characteristics, influence consumers &; behavior while shopping for energy-efficient products and how their attitudes and purchasing intentions influence behavior. thus far, our discussion has resulted in the following research statement: to better understand consumer behavior in Kerala, including the elements that influence customers ; decisions to purchase led goods in Kerala.</p> <p>Design/Methodology/Approach: Samples were drawn from the urban area of Kerala. the state of kerala consist of 14 districts, simple random sampling method was used to select 5 districts (36 per cent of the total population). from the selected districts, again select one urban area from each district i.e., 40 samples from each urban area. total 200 sample respondents were selected for the study by using purposive sampling method.</p> <p>Findings:The present study was focused on planned behaviour of consumer towards led products. there are four hypotheses were tested with structural equation model. the result concludes that attitude of consumers and their perceived behaviour control is not linked with the purchase intention, while the subjective norms is linked with purchase intention and the purchase intention is linked with the purchase behaviour. hence, based on the result, it could be concluding that majority of the consumers were encouraged by the others to purchase led products and not on their attitude and perceived behaviour control and their purchasing intention id deciding their purchase behaviour.</p> <p>Research, practical & social implications:Samples were drawn from the urban area of kerala. the state of kerala consist of 14 districts, simple random sampling method was used to select 5 districts (36 per cent of the total population). from the selected districts, again select one urban area from each district i.e., 40 samples from each</p> |

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urban area. total 200 sample respondents were selected for the study by using purposive sampling method. the criterion was the consumers those who have experience with the led products. total 540 questionnaires were distributed among the selected area and 478 questionnaires were return after the elimination of partially filled questionnaires. then 200 questionnaires were randomly selected.

Originality/value:This study attempts to fill in the knowledge gap using an experimental technique to examine how energy efficiency efforts affect participant behavior. as a surrogate for attitudes and beliefs, the tpb variables explain energy consumption intentions and behavior. according to this research, kerala consumers have been slower than their counterparts worldwide to embrace and apply highly developed and integrated contemporary energy efficiency measures. furthermore, this investigation will help businesses go forward and gain the public trust in energy-efficient products. however, it is difficult; this study tries to determine the most critical and essential factors influencing client attitudes regarding led Purchases.

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A TEORIA DO COMPORTAMENTO PLANEJADO E O EXAME DOS COMPORTAMENTOS DE COMPRA DE PRODUTOS DE ILUMINAÇÃO ENERGETICAMENTE EFICIENTES POR PARTE DOS CONSUMIDORES

RESUMO

Objetivo: Este estudo visa determinar quais fatores influenciam os consumidores; desejo de comprar lâmpadas led em kerala. um sem modelo foi usado para examinar os fatores que influenciam o desejo de comprar luzes led. há 15 razões para mudar para luzes led. houve 200 respostas de compradores, e o estudo analisou clientes & intenções em relação aos leds. o modelo da equação estrutural avaliou quatro suposições. em conclusão, os clientes & atitudes e controle percebido sobre seu comportamento não estão relacionados com sua intenção de compra, embora normas subjetivas e comportamento de compra estejam relacionados. os dados sugerem que ao invés de seu humor e comportamento percebido determinarem seu comportamento de compra, e sua intenção de compra ditarem seu comportamento de compra.

Estrutura teórica: A adoção de iluminação liderada tem afetado o consumo doméstico de energia e os determinantes psicológicos necessários do uso da eletricidade. entretanto, este estudo utiliza a teoria do comportamento planejado para explicar as intenções e o comportamento do cliente. em comparação, a pesquisa tem que entender melhor as características e a dinâmica do uso de energia e o comportamento pró-ambiental e o impacto das iniciativas de eficiência energética. tem havido pouco estudo sobre o efeito de tais programas no comportamento energético. para examinar quais características, influenciar os consumidores & comportamento durante a compra de produtos energeticamente eficientes e como suas atitudes e intenções de compra influenciam o comportamento. até agora, nossa discussão resultou na seguinte declaração de pesquisa: para entender melhor o comportamento do consumidor em Kerala, incluindo os elementos que influenciam os clientes; decisões de compra de produtos liderados em Kerala.

Design/Methodologia/Proteção: Foram retiradas amostras da área urbana de Kerala. o estado de Kerala consiste em 14 distritos, foi usado um método de amostragem aleatória simples para selecionar 5 distritos (36% da população total). dos distritos selecionados, novamente seleccione uma área urbana de cada distrito, ou seja, 40 amostras de cada área urbana. no total, foram selecionadas 200 amostras para o estudo, usando o método de amostragem proposital.

Conclusões: O resultado conclui que a atitude dos consumidores e seu controle de comportamento percebido não está ligado à intenção de compra, enquanto as normas subjetivas estão ligadas à intenção de compra e a intenção de compra está ligada ao comportamento de compra.

Pesquisa, implicações práticas e sociais: As amostras foram retiradas da área urbana de kerala. o estado de kerala consiste em 14 distritos, foi usado um método simples de amostragem aleatória para selecionar 5 distritos (36% da população total). dos distritos selecionados, novamente seleccione uma área urbana de cada distrito, ou seja 40 amostras de cada área urbana. no total, 200 amostras foram selecionadas para o estudo usando o método de amostragem proposital. o critério foram os consumidores aqueles que têm experiência com os produtos liderados. no total, 540 questionários foram distribuídos entre a área selecionada e 478 questionários foram devolvidos após a eliminação dos questionários parcialmente preenchidos. em seguida, 200 questionários foram selecionados aleatoriamente.

Originalidade/valor: Este estudo tenta preencher a lacuna de conhecimento usando uma técnica experimental para examinar como os esforços de eficiência energética afetam o comportamento dos participantes. como substituto para atitudes e crenças, as variáveis tpb explicam as intenções e o comportamento de consumo de energia. de acordo com esta pesquisa, os consumidores de kerala têm sido mais lentos do que seus pares em todo o mundo a adotar e aplicar medidas de eficiência energética contemporâneas altamente desenvolvidas e integradas. além disso, esta investigação ajudará as empresas a avançar e ganhar a confiança do público em produtos de eficiência energética. entretanto, é difícil; este estudo tenta determinar os fatores mais críticos e essenciais que influenciam as atitudes dos clientes em relação às Compras lideradas.

Palavras-chave: Lâmpadas LED, Modelo de equação estrutural, Seu comportamento de compra.

LA TEORÍA DEL COMPORTAMIENTO PLANIFICADO Y EL EXAMEN DE LOS COMPORTAMIENTOS DE COMPRA DE LOS CONSUMIDORES DE PRODUCTOS DE ILUMINACIÓN DE BAJO CONSUMO

RESUMEN

Propósito: Este estudio pretende determinar qué factores influyen en el deseo de los consumidores de comprar lámparas de led en Kerala. se utilizó un modelo de ecuaciones estructurales para examinar los factores que influyen en el deseo de comprar luces de led. hay 15 razones para cambiar a las luces de led. hubo 200 respuestas de compradores, y el estudio analizó las intenciones de los clientes hacia los ledes. el modelo de ecuaciones

estructurales evaluó cuatro supuestos. en conclusión, las actitudes de los clientes y el control percibido sobre su comportamiento no están relacionados con su intención de compra, aunque las normas subjetivas y el comportamiento de compra sí lo están. los datos sugieren que, en lugar de que su estado de ánimo y su comportamiento percibido determinen su comportamiento de compra, es su intención de compra la que dicta su comportamiento de compra.

Marco teórico: La adopción de la iluminación led ha afectado al consumo energético de los hogares y a los determinantes psicológicos necesarios para el uso de la electricidad. sin embargo, este estudio utiliza la teoría del comportamiento planificado para explicar las intenciones y el comportamiento de los clientes. en comparación, la investigación tiene que comprender mejor las características y la dinámica del uso de la energía y el comportamiento proambiental y el impacto de las iniciativas de eficiencia energética. Se han realizado pocos estudios sobre el efecto de estos programas en el comportamiento energético. para examinar qué características, influyen en los consumidores & el comportamiento mientras que la compra de productos de eficiencia energética y cómo sus actitudes y las intenciones de compra influyen en el comportamiento. hasta ahora, nuestra discusión ha dado lugar a la siguiente declaración de investigación: para entender mejor el comportamiento de los consumidores en Kerala, incluyendo los elementos que influyen en los clientes ; las decisiones de compra de bienes dirigidos en Kerala.

Diseño/ Metodología/ Enfoque: Las muestras se extrajeron del área urbana de Kerala. El estado de Kerala consta de 14 distritos, y se utilizó el método de muestreo aleatorio simple para seleccionar 5 distritos (el 36% de la población total). de los distritos seleccionados, se seleccionó de nuevo un área urbana de cada distrito, es decir, 40 muestras de cada área urbana. se seleccionó un total de 200 encuestados para el estudio mediante el método de muestreo intencional.

Resultados: El presente estudio se centró en el comportamiento planificado de los consumidores hacia los productos LED. Se probaron cuatro hipótesis con el modelo de ecuaciones estructurales. El resultado concluye que la actitud de los consumidores y su control de comportamiento percibido no están vinculados con la intención de compra, mientras que las normas subjetivas están vinculadas con la intención de compra y la intención de compra está vinculada con el comportamiento de compra. por lo tanto, sobre la base del resultado, se podría concluir que la mayoría de los consumidores fueron alentados por los demás para comprar productos LED y no en su actitud y control de comportamiento percibido y su intención de compra para decidir su comportamiento de compra.

Investigación, implicaciones prácticas y sociales: Las muestras se extrajeron del área urbana de Kerala. El estado de Kerala consta de 14 distritos, y se utilizó el método de muestreo aleatorio simple para seleccionar 5 distritos (36% de la población total), En total, se seleccionaron 200 encuestados para el estudio mediante el método de muestreo intencionado. El criterio fue que los consumidores tuvieran experiencia con los productos de plomo. Se distribuyeron 540 cuestionarios en la zona seleccionada y se devolvieron 478 cuestionarios después de eliminar los que se habían rellenado parcialmente.

Originalidad/valor: Este estudio intenta llenar el vacío de conocimiento utilizando una técnica experimental para examinar cómo los esfuerzos de eficiencia energética afectan al comportamiento de los participantes. como sustituto de las actitudes y creencias, las variables tpb explican las intenciones de consumo de energía y el comportamiento. según esta investigación, los consumidores de kerala han sido más lentos que sus homólogos de todo el mundo a la hora de adoptar y aplicar medidas de eficiencia energética contemporáneas altamente desarrolladas e integradas. además, esta investigación ayudará a las empresas a avanzar y a ganarse la confianza del público en los productos de eficiencia energética. sin embargo, es difícil; este estudio trata de determinar los factores más críticos y esenciales que influyen en las actitudes de los clientes con respecto a las compras dirigidas.

Palabras clave: lámparas LED, Modelo de ecuaciones estructurales, Su Comportamiento de compra.

INTRODUCTION

Increased homeownership and appliance use have been the primary drivers of energy consumption during the last few decades. (Li Z. &., 2021). Increased electricity demand per capita, population growth, and rising fossil fuel costs are all cited as factors for improving energy efficiency in a growing number of countries. Numerous countries, particularly developing ones such as India, place a premium on energy efficiency. By 2017, India's total energy consumption had increased by 50%, mainly owing to the expansion of the

manufacturing and transportation sectors. The G20 countries divide on whether China is experiencing the fastest increase in primary energy. Many Indians now have access to electricity and clean cooking. Energy efficiency will become increasingly important as India's economy grows. (IEA, Clean Energy Transitions Programme 2020, 2021).

For the same reason, developing countries could save nearly \$40 billion in electricity costs while also lowering CO₂ emissions by 320 million Mt per year merely by switching to LED lighting technology, according to a 2017 assessment by the United Nations Environment Programme. We can evaluate how LED products contribute to environmental sustainability in various ways by examining their properties. To begin, LEDs utilize less energy than conventional lights, hence reducing the demand for electricity generation. Second, because LEDs are more durable and long-lasting than other types of illumination, they generate less waste throughout their operation. Three reasons include the fact that they are constructed of recyclable materials and contain no dangerous chemicals. Along with the multiple benefits of LED replacement methods, there has been a considerable change away from a consume-and-throw mentality toward a "circular economy," which entails reducing reliance on obsolete energy sources and waste creation. (Hsu, 2017),(Sarkar, 2010).

In Malaysia, the use of energy-efficient products such as LED lighting in buildings such as large corporations and government institutions has increased in response to a growing awareness of environmental issues.(Shaikh, 2017). Between 2000 and 2018, India's energy efficiency improvements saved an estimated 15% of annual energy demand and 300 million metric tonnes of CO₂. Additionally, governments are acquiring large quantities of energy-efficient products, such as LEDs, utilizing marketable energy efficiency certifications. The government's LED program has reduced global prices to meet the rising demand for energy-efficient lighting while simultaneously creating jobs in local production.(IEA, India 2020).

By 2040, India's energy consumption could quadruple due to rising appliance ownership and cooling requirements. By 2050, if significant improvements in energy efficiency are not made, India will need to create a large amount of new electricity generation capacity to meet the demand from 1 billion air conditioners. India could halve its annual energy output and save USD 190 billion in energy imports by 2040 without producing nearly half as much electricity as it already does.(IEA, India 2020, 2020).

The majority of study on this subject has concentrated on particular product categories to understand better consumers' energy-efficient purchasing behaviours (e.g., air conditioners, televisions, and washing machines). However, the findings of these studies cannot be generalized across product categories due to the variability of specific variables. As a result,

this research will perform an experimental investigation of purchasing behavior associated with energy efficiency in LED lighting products to bridge the knowledge gap between the literature and present reality.(van den Broek, 2019). The Theory of Planned Behavior (TPB) is the fundamental theoretical framework for investigating the causes and consequences of purchase behavior in this study.(Zandi, 2019).

It contributes to our existing knowledge in a variety of ways(Riasudeen, 2021).To begin, it advances LED product research by considering changes in customer behavior due to lower LED light prices now than when the earlier literature was published. Second, it compares the TPB framework's validity and relevance to prior research across various demographics and periods. Additionally, this study examines attitudes and behavior, positing that purchasing intention serves as a mediating variable to understand better how the model's primary components affect actual purchasing behavior. Finally, it increases our understanding of Indian home consumers' energy-efficient purchasing behaviours, enabling green marketers to develop sustainable marketing approaches.

The following is the document's structure: Section 2 includes a review of the prior literature and a model formulation. The study's methodology and results will be discussed on the third page. Because it can handle smaller sample sizes, structural equation modeling (SEM) is used in this work. SEM techniques are commonly used in behavioral and psychological science research. Section 4 summarises the findings, allowing researchers to verify the correctness of the forecasts and the posited model's validity and trustworthiness. We go into more depth on policy and practical implications of the research findings in Section 5. Section 6 wraps up the research, assesses its shortcomings and recommends future research prospects.

REVIEW OF LITERATURE AND PROPOSED MODEL FORMULATION

A sufficient theoretical model of human behavior was required to meet the study's goals. The model needs to be simple, predictive, and adaptable. Before arriving at the Theory of Planned Behavior, it required a long time to narrow down the theoretical possibilities. (TPB) developed by (Figure 1)(Kroshus, 2014)(Ajzen, The theory of planned behavior, 1991). According to the TPB, subjective norms and perceived behavioral control have a positive causal association with intention. TPB is held liable for the behavior of people in its care. (Fielding, 2008).

Environmental behavior may be studied using this model, as it is one of the most used. The TPB model, according to academics, can explain current consumer behavior as well as predict what it will be in the future. Consumers' aspirations to purchase energy-efficient

products have been the subject of research on energy-efficient appliances. Many behavioral researchers have enhanced TPB's explanatory power by incorporating cognitive components; however, there is no practical proof of purchasing intentions or behavior for energy-efficient home products(Ritter, 2015).

Prior studies have concentrated on the intentions of customers to buy rather than the actual purchasing behavior. When buying ecologically friendly items, several studies have found a disconnect between intentions and actual behavior. This research produced a substantial void by studying the relationship between client purchasing intentions and actual LED purchases. In addition, the TPB framework will aid in the investigation of factors that influence LED product purchases by customers. In addition to confirming the connection between these elements, it will also reveal how consumers acquire their products.(Li H. &, 2019).

In recent years, the TPB model has become increasingly popular among academics because of its ability to quantify a wide range of characteristics in several scenarios.

LED products evaluated using the TPB model, which we will go into more depth about below. For example, attitude affects purchase intention because it mediators the object's psychological appraisal and our memories. It may also forecast actual human behavior in some cases. Attitude and behavioral intention are firmly linked, according to several studies.(Fazio, 1995). For example,(Mostafa, 2007) discovered that attitude is a significant predictor of intention in a variety of cultures. Similarly,(Van Birgelen, 2009). Consumer research shows that those with a solid pro-environmental mentality are more likely to buy environmentally friendly goods. Studies show that Indian customers like environmentally friendly items, which impacts their shopping decisions positively. According to a review of the available research, this study asserts that choosing energy-efficient products like LEDs would be influenced by the attitude(Nguyen, 2019).

Subjective norms refer to customers' perceptions of peer pressure, which drive them to behave in specific ways to comply with social standards. Consumers are more inclined to participate in or refrain from particular activities if the behavior is in line with societal standards.(Han, 2010)(Ajzen, 2015). Environmentally aware behavior and especially the purchase of green products in India have linked several kinds of research to the subjective norm and buying intention.(Jaiswal, 2018). According to recent studies, consumers' subjective norms are a reliable indicator of their willingness to purchase energy-efficient goods. Previous studies have proven the relevance of subjective standards in determining the desire to purchase energy-efficient household equipment. Normative values may have a positive impact on LED purchasing intentions, according to this study's findings.(Paul, 2016).

A person's assessment of the difficulty or ease with which a given activity perform is known as "perceived behavioral control."(Ajzen, 2002). PBC, then, has two sides. Consumer confidence in carrying out a specific action is one component, while the availability of resources (such as time and money) required to carry out the behavior is another. Several studies have found a relationship between PBC and purchase intention in various circumstances, such as green products, energy conservation, and environmentally friendly consumer behavior.(Jeffery, 2019),(Apipuchayakul, 2020).

The chance that customers will make a purchase refer to as their purchase intention. Customers who have a strong desire to buy are more likely to purchase than customers who do not want to buy. According to (Ajzen, 2002), When someone intends to do something, it is a strong signal of their desire to engage in that action. Over and over again, studies have found a substantial link between purchase intentions and actual behaviours.(Pavlou, 2002). Furthermore, this positive connection has been confirmed in empirical research looking at the purchase of energy-efficient household items.

TPB also predicts that the desire to buy will influence the actual behavior of buying. However, PBC may be used in conjunction with purchase intention to determine actual behavior to better forecast natural buy behavior.(Carrington, 2010). PBC is commonly used as a substitute for measuring actual purchasing behavior because it claims that PBC directly impacts actual behavior.(Jin, 2011). When it comes to LED purchases, intention and PBC are expected to impact behaviorsignificantly.Positive environmental attitudes impact green buying intentions and behavior, according to empirical research. Energy-efficient home equipment adoption was substantially higher among consumers that place a high value on environmental stewardship.(Kautish, 2019). According to the findings of this research, attitudes toward LED purchases have a substantial impact on buying behavior.

According to studies, demographic factors have been shown to influence environmentally friendly purchase behaviours substantially. Education, age, gender, income, and house ownership play essential roles in determining how long customers will continue to use energy-efficient products.(Caggiano, 2021). The ability to accurately segment customers and create targeted marketing strategies is essential in fast-growing markets like India.(Ajitha, 2017),(Basha, 2019). This study analyses the impact of sociodemographic factors on LED product purchase behavior based on extensive research on demographic influences on green shopping habits.(Tsakiridou, 2008). Consequently, the following sociodemographic factors will examine in this study based on prior comparable studies: gender, age; education level;

place of residence; monthly household income; ownership, family status, and whether or not a family member pays electric bills.(Jain, 2006). Proposed hypothesis are follows,

Statement of the Problem

The adoption of led lighting has affected household energy consumption and the necessary psychological determinants of electricity use. However, this study uses the Theory of Planned Behavior to explain customer intentions and behavior. In comparison, research has to understand better the features and dynamics of energy use and pro-environmental behavior and the impact of energy efficiency initiatives. There has been little study on the effect of such programs on energy behavior. To examine which characteristics, influence consumers' behavior while shopping for energy-efficient products and how their attitudes and purchasing intentions influence behavior. Thus far, our discussion has resulted in the following research statement: To better understand consumer behavior in Kerala, including the elements that influence customers' decisions to purchase LED goods in Kerala.

Objectives of the study

1. To assess the Purchase behaviour in related to the attitude of customers towards purchase intention, perceived behavioural control, and subjective norms
2. To assess the relationship between Purchase intention and Purchase behavior

Hypotheses

H0:Attitude towards LED products is not significantly linked to purchase intention.

H0:Subjective norm is not significantly connected with an excellent desire to acquire LED products.

H0:Perceived behavioural control is not significantly linked to LED product purchase behaviour.

H0:Purchase intent is not significantly linked to LED purchase behaviour.

Methodology

Study was designed as descriptive based on secondary and Primary Data

Sample design

Samples were drawn from the Urban area of Kerala. The State of Kerala Consist of 14 districts, simple random sampling method was used to select 5 districts (36 per cent of the total

population). From the selected districts, again select one urban area from each district i.e., 40 samples from each urban area. Total 200 sample respondents were selected for the study by using purposive sampling method. The criterion was the consumers those who have experience with the LED products. Total 540 questionnaires were distributed among the selected area and 478 questionnaires were returned after the elimination of partially filled questionnaires. Then 200 questionnaires were randomly selected.

Scope and Justification of the Study

This study attempts to fill in the knowledge gap using an experimental technique to examine how energy efficiency efforts affect participant behavior. As a surrogate for attitudes and beliefs, the TPB variables explain energy consumption intentions and behavior. According to this research, Kerala consumers have been slower than their counterparts worldwide to embrace and apply highly developed and integrated contemporary energy efficiency measures. Furthermore, this investigation will help businesses go forward and gain the public's trust in energy-efficient products. However, it is difficult; this study tries to determine the most critical and essential factors influencing client attitudes regarding LED purchases.

Structural Equation Model- Planned Behaviour of Consumers

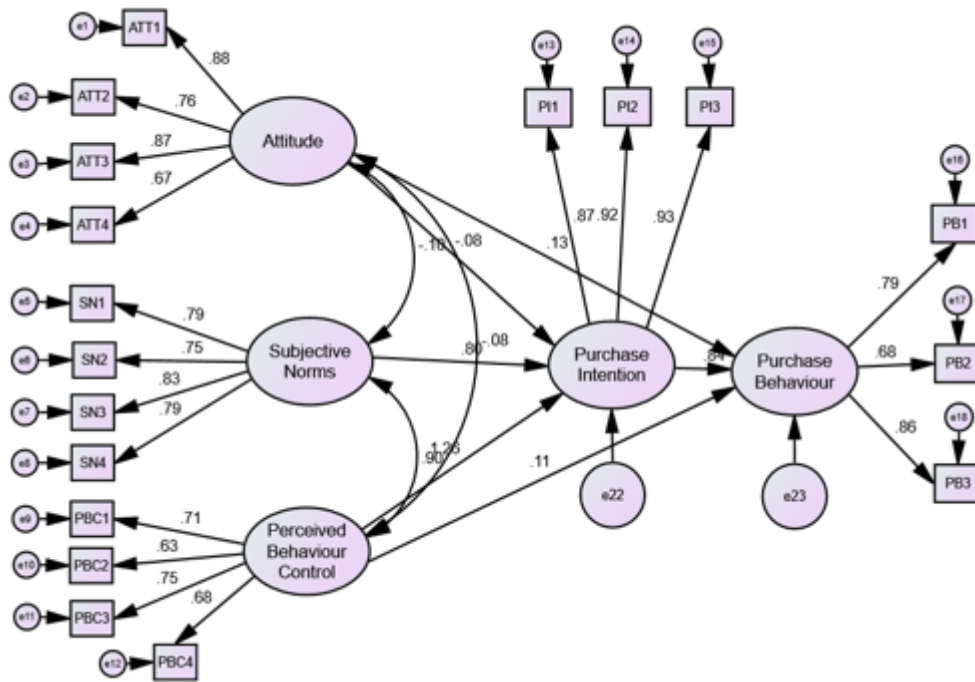
Here the study was applied Structural Equation Model for assessing the planned behaviour of Consumer regarding LED products.

| | |
|--|--|
| Attitude- Cronbach's Alpha -.785 | |
| ATT1 | I believe that using LED bulb helps solve global warming issues and environmental degradation |
| ATT2 | I believe that using energy-efficient products is favourable |
| ATT3 | Helping relieve global warming by using energy-efficient products means an intrinsic reward for myself |
| ATT4 | I believe that using LED bulb will reduce the electricity charges |
| Subjective Norm- Cronbach's Alpha -.882 | |
| SN1 | Advice from others influenced my decision to adopt LED products |
| SN2 | People which influence my decisions think that I should use more EE products |
| SN3 | Nowadays, LED products are far superior to others |
| SN4 | Government Green electronic policy influenced me to use LED products |
| Perceived Behavioural Control- Cronbach's Alpha -.801 | |
| PBC1 | I am confident that I can afford to buy an LED bulb in the future |
| PBC2 | I bought an LED bulb because it is easily available in my area |
| PBC3 | Decisions to buy LED and other energy-efficient products help society and the environment |
| PBC4 | I bought an LED bulb because of its features and advantage |
| Purchase Intention- Cronbach's Alpha -.725 | |
| PI1 | In the future, I will definitely buy LED bulbs |
| PI2 | I intend to use LEDs in order to save energy at home |

| | |
|------------|---|
| Pi3 | If possible, I will share my knowledge about LEDs to others |
|------------|---|

Here the Model fit index indicates that the present model was fit for structural equation modelling i.e., CMIN NPAR is 31 with p-value .092 and RMSEA value is 0.021 and FMIN is 0.373. which are indicating that model is having goodness of fit.

Structural Equation Model - Figure 1



| | | | Estimate | S.E. | C.R. | P |
|--------------------|------|----------------------------|----------|------|--------|------|
| Purchase Intention | <--- | Subjective Norms | .508 | .085 | -5.952 | *** |
| Purchase Intention | <--- | Attitude | -.330 | .398 | -.831 | .406 |
| PurchaseBehaviour | <--- | Purchase Intention | 1.561 | .250 | 6.234 | *** |
| PurchaseBehaviour | <--- | PerceivedBehaviour Control | .158 | .120 | 1.309 | .191 |

Table shows that regression weight for Subjective Norms in the prediction of Purchase Intention is significantly different from zero at the 0.001 level, which means result is statistically significant, on the other hand, it could be seen that regression weight for attitude in the prediction of purchase intention is not statistically significant. While in the case of regression weight for purchase intention is statistically significant towards the purchase behaviour and the regression weight for perceived behavioural control is statistically not significant towards the purchase behaviour.

| Standardized Regression Weights: | | | Estimate |
|----------------------------------|------|---------------------------|----------|
| Purchase Intention | <--- | Subjective Norms | .804 |
| Purchase Intention | <--- | Attitude | -.083 |
| Purchase Behaviour | <--- | Purchase Intention | .835 |
| Purchase Behaviour | <--- | PerceivedBehaviourControl | .106 |

The standardized Regression estimation indicates that effect of subjective norms towards the purchase intention is .804, and effect of attitude towards the purchase intention was negative i.e., -.083 and the result is not statistically significant. On the other hand, effect of purchase intention towards the purchase behaviour is .835, while in the case of perceived behavioural control, it could be seen that the effect is only .106 and the result is not statistically significant.

Correlation result

| | | | Estimate |
|---------------------------|------|------------------|----------|
| Attitude | <--> | Subjective Norms | -.099 |
| PerceivedBehaviourControl | <--> | Attitude | -.077 |
| PerceivedBehaviourControl | <--> | Subjective Norms | .897 |

The correlation result indicates that there is a negative correlation between Subjective Norm and Attitude and again negative correlation between Perceived Behaviour Control and Attitude. On the other hand, there is a positive high correlation between Perceived Behaviour Control and Subjective Norms

Hypothesis Discussion

H₀: Attitude towards LED products is not significantly linked to purchase intention.

Based on the SEM model it could be seen that attitude is not statistically significant at 5 per cent significant level i.e., $.406 > 0.05$, which means Attitude haven't significantly influencing the purchase intention of consumer towards LED bulb. Hence the null hypothesis stands accepted

H₀: Subjective norm is not significantly connected with an excellent desire to acquire LED products.

Here the Model indicates that subjective norms were statistically significant towards the purchase intention i.e., $.000 < 0.05$ and the result shows higher estimation. Which means that subjective norms are significantly influencing the purchase intention of consumers regarding LED products. Based on the result, the null hypothesis stands rejected.

H₀: Perceived behavioural control is not significantly linked to LED product purchase behaviour.

Here the Model indicates that Perceived behavioural control is not statistically significant towards the purchase behaviour i.e., $.191 > 0.05$ and the result shows lower estimation. Which means that Perceived behavioural control is not significantly influencing the purchase behaviour of consumers regarding LED products. Based on the result, the null hypothesis stands accepted.

H₀: Purchase intent is not significantly linked to LED purchase behaviour.

Here the Model indicates that Purchase intent is statistically significant towards the purchase behaviour i.e., $.000 < 0.05$ and the result shows higher estimation. Which means that Purchase intent are significantly influencing the purchase behaviour of consumers regarding LED products. Based on the result, the null hypothesis stands rejected.

CONCLUSION

The present study was focused on planned behaviour of consumer towards LED products. There are four hypotheses were tested with structural equation model. The result concludes that attitude of consumers and their perceived behaviour control is not linked with the purchase intention, while the subjective norms is linked with purchase intention and the purchase intention is linked with the purchase behaviour. Hence, based on the result, it could be concluding that majority of the consumers were encouraged by the others to purchase LED products and not on their attitude and perceived behaviour control and their purchasing intention id deciding their purchase behaviour.

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