

Consumer Behavior in Purchasing LED Energy Saving Lamp. Case Study: Provincial Electricity Authority (PEA) Energy Company Limited

Nuchpharwa Thongthilawong¹, Tosaporn Mahamud²

^{1, 2}Master of Business Administration, Kasem Bundit University, Suan Luang, Bangkok, 10250

Email address: tosaporn.mah@kbu.ac.th

Abstract— The study about consumer behavior in purchasing LED energy saving lamp of PEA Energy Company Limited has population that is PEA’s customers from which 101 samples are purposively selected. Questionnaire is used as a tool for data collection. Statistics used for data analysis are Percentage, Mean, Standard Deviation, Hypothesis test by t-test, and Regression Analysis. The study indicates that most of the questionnaire respondents are in the form of limited partnership and next is company limited. Locations for usage of the LED energy saving lamps are mostly in central region and the second is eastern part of Thailand. Type of places to use the lamps is mostly industrial factories and then Condominium or house projects. Most of the purchases are less than 50,000 Baht and next is between 50,001-100,000 Baht. Marketing mix factors including product, price, distribution channel, and marketing promotion have influences on the consumer behavior in buying the LED lamps respectively. This is in accordance with the study of Thongchai Choosun (2013) about factors affecting buying decision of condominium which found that marketing mix factor with the most impact is the product. For distribution channel and marketing promotion, it is found that these two factors have the highest level of significance. This outcome is in the same direction with the study of Sutthikiat Chantakhad (2012) about marketing factor that has influences on consumer behavior in Bangkok when buying motorcycles. His study showed that the product in general is in the highest level. For price, it is revealed that the price has highest level of significance in general. This result is similar to the research of Niphaporn Ariyabandit (2012) which studied about factors affecting consumers’ choice for buying a second hand residence in Bangkok and metropolitan. Her study asserted that price is in the highest level of significance. Recommendation from the study is to promote improvement of image of the product that have influences on marketing mix in order to maintain target customers and also should.

Keywords— Product; price; place; promotion.

I. INTRODUCTION

Electricity is necessary for everybody and the needs for electricity are increasing every year. For this reason, Metropolitan Electricity Authority (MEA) and Electricity Generating Authority of Thailand (EGAT) have raised campaigns to promote electricity saving by choosing energy-saving electrical appliances which consume less power but produce high output. Lamp is one of electrical appliances that can be energy saving by choosing the lamp that produce high lamination while consume less electrical current. One of the most popular types of energy-saving lamp is LED.

LED is the short form of Light Emitting Diode which is an innovation that changes electricity power to lamination. LEDs are simply diodes that are designed to give off light. When a diode is forward-biased so that electrons and holes are zipping back and forth across the junction, they’re constantly combining and wiping one another out. Sooner or later, after an electron moves from the n-type into the p-type silicon, it will combine with a hole and disappear. That makes an atom complete and more stable and it gives off a little burst of energy in the form of a tiny packet or photon of light. The person inventing LED is Nick Holonyak Jr. He invented LED that emitted visible red light that can be used practically in 1962 while he was working for the General Electric Company. In 1970, George Crawford first invented yellow LED and developed brightness of red LED and orange LED with light-emitting diode.

Researcher becomes interested in studying about organizational consumers’ behavior in purchasing LED energy saving lamp of PEA Energy Company Limited. The reason is because in this economic downturn condition, managements of companies have to pursue cost reduction. One of the strategies to reduce production cost is to save all kinds of energy and use them in a maximum utilization manner.

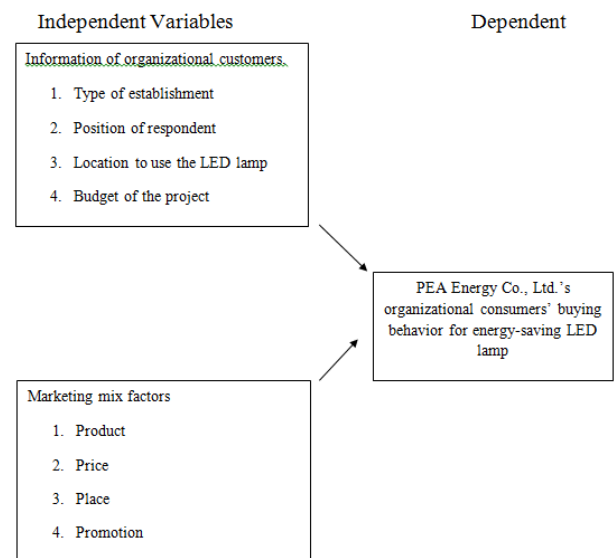


Fig. 1. Conceptual framework

Research Objectives

1. To study PEA Energy Co., Ltd.'s organizational consumers' buying behavior for energy-saving LED lamp.
2. To study marketing mix factors' influences on PEA Energy Co., Ltd.'s organizational consumers' purchase of energy-saving LED lamp.

II. LITERATURE REVIEW

Researcher has reviewed concepts, theories, and related literature such as marketing mix concept (4P's) by Siriwan Serirat et al (2009:80-81) who asserted that service business needs to apply marketing mix like business that sells products. The marketing mix can be explained as follows.

1. Product means things offered by seller to satisfy customer's need. It consists of tangible and intangible elements such as packaging, color, price, quality, brand, service, and seller's reputation. Product may be goods, service, place, person, or ideas. To be sellable, products must have utilities and values to satisfy customers' needs.
2. Price is financial value that customers have to pay to acquire the products. Customers will compare value of the products against the price that they have to pay. Therefore, price setting is related to perceived value of the product in customers' eyes. The value must be accepted by customers as higher than the price which results from cost of goods, expenses, and competition.
3. Place or distribution channel concerns structure of the channel products have to go through before reaching customers. Place consists of institute and activities involved in movement of products to target market. The activities related to distribution are transportation, cargo, and inventory.
4. Promotion is marketing communication tools attempting to make customers content with the brands of product or service, the ideas, or the persons to create the need, to remind customers about the brand. This is done with the purpose to influence the feeling, beliefs, and buying behavior of customers and also to communicate information about the product or service to customers in order to form an attitude and buying behavior. The communication could be conducted through personal selling or non-personal selling. Communication tools are available in many forms, marketing communicator can choose the most appropriate tool by looking through principle of Integrated Marketing Communication (IMC) and considering customers, product, and competitors to finally achieve the marketing goal.

Related Studies

Warayuk Porncharoenrot (2006) studied influencing factors on buying behavior of retailers in Bangkok for Osram energy-saving lamp. It was found that customers have medium level of attitude toward Osram energy-saving lamp in all aspects including design, quality, price, and promotion.

Thongchai Chusoon (2013) did the research on factors affecting the purchase of condominium with the purpose to study influences of marketing mix factors. The factors are

found to be in the highest level overall and the first priority is convenience to travel. For reputation and image aspect, it has a high level of overall mean with the confidence in the company as the first priority. A decision making factor is in the highest level overall mean and has the size of usable area in the room and layout of rooms as the most influencing factors. Hypothesis test result showed that marketing mix factors and reputation & image have impacts on the buying decision for condominium.

Niphaporn Ariyabundit (2012) studied factors affecting buying behavior for secondhand residences in Bangkok and metropolitan. The study focused on 3 factors including demographic factor, marketing mix factor, and motivating factor. Samples are people interested to buy residences in Bangkok and metropolitan. The mean of significance level of marketing mix factors indicated that customers pays most attention to the price, location and distribution channel, product, and promotion respectively.

Sutthikiat Chantakhad (2012) conducted research on marketing mix factors' influences on Bangkok customers' buying behavior for motorcycle. The results revealed that most of questionnaire respondents are male, aged 30-39, graduated Bachelor's degree, work for governmental offices or private companies, and single marital status. The study found that the hypothesis is true about marketing mix factors have influences on the buying decision at a significance level of 0.05

III. METHODOLOGY

Samples of this study are 101 customers of PEA Energy Co., Ltd.

Tool used in the research is questionnaire consisting of 4 parts as follows.

- Part1 consists of company details of the respondents.
- Part2 consists of questions about PEA Energy Co., Ltd.'s organizational customers' buying behavior for energy-saving LED lamp.
- Part3 consists of questions about marketing mix factors including product, price, place, promotion and their influences on PEA Energy Co., Ltd.'s organizational customers' buying behavior for energy-saving LED lamp.
- Part4 contains questions about PEA Energy Co., Ltd.'s organizational customers' satisfaction with energy-saving LED lamp.

Data collection and gathering were done by the researcher distributed questionnaires to 101 of PEA Energy Co., Ltd.'s organizational customers

Statistics used for data analysis are Frequency, Percentage, and Standard Deviation.

Findings

The research on PEA Energy Co., Ltd.'s organizational customers' buying behavior for energy-saving LED lamp found that the organizational customers have needs for energy-saving LED lamp in the highest level. This is similar to the study done by Warayuk Porncharoenrot (2006) which was about consumers' behavior in choosing Osram energy-saving lamp and found the need of product at the highest level.

Marketing mix factors in product, price, place, and promotion have the highest level of impact on PEA Energy Co., Ltd.'s organizational customers' buying behavior for energy-saving LED lamp. This is in accordance with the research of Thongchai Chusoon (2013: Abstract) about factors affecting the purchase of condominium which found overall influences of marketing mix factors to be in the highest level.

Product, place, and promotion are found to be in the highest level of influences. This finding is in the same direction with Sutthikiat Chantakhad (2012) who studied marketing mix factors' influences on Bangkok customers' buying behavior for motorcycle and found that product in general has the highest level of significance.

Price is found to be in the highest level similar to the study of Niphaporn Ariyabundit (2012:Abstract) about factors affecting buying behavior for secondhand residences in Bangkok and metropolitan. Her study found the price factor to be in the highest level of significance.

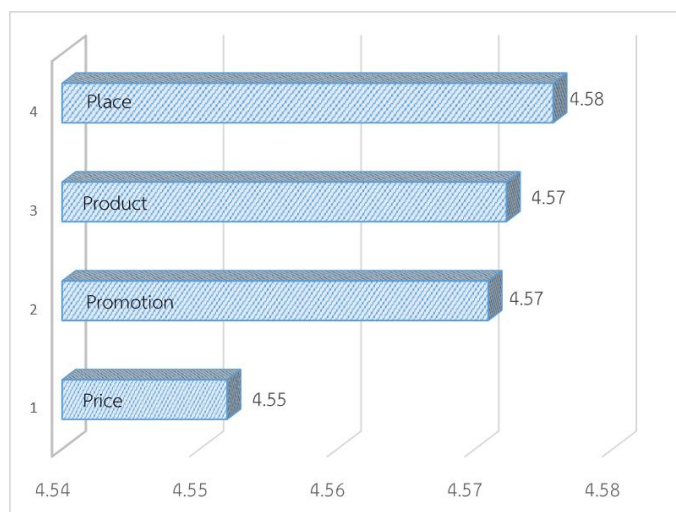


Fig. 2. Overview of all marketing mix factors and their effects on PEA Energy Co., Ltd.'s organizational customers' buying behavior for energy-saving LED lamp.

The marketing mix factors have high level of influences on PEA Energy Co., Ltd.'s organizational customers' buying

behavior for energy-saving LED lamp. When considering each aspect, it is found that all 4 aspects have the highest level of influences.

IV. CONCLUSION AND RECOMMENDATIONS

The study result showed that respondents mostly are from limited partnership and the second type is company limited; the area to use energy-saving LED lamp is mostly central region and the second one is eastern part of Thailand; type of place to install the energy-saving LED lamp is mostly industrial factories and the second type of place is condominium or house projects. Seller should pay attention to: usage life of the lamps, volume discount, assigning sales & service agents in every province, various types of marketing promotion. These mentioned above are important for development to reach customer satisfaction.

ACKNOWLEDGEMENT

The research on PEA Energy Co., Ltd.'s organizational customers' buying behavior for energy-saving LED lamp is completed with the courtesy of questionnaire respondents who donate their time answering the questions. I am grateful to Dr. Tossaporn Mahamad, my advisor, who always spends his effort in advising, suggesting, encouraging and supporting students. Thanks to my MBA classmates for their assistance and suggestions. I appreciate MBA program officers help in providing all necessary facilities. Finally, I am immense grateful to all my lecturers who have taught and given me knowledge and also writers of textbooks and articles that I used for my independent research paper's references.

REFERENCES

- [1] N. Ariyabundit, "Factors influencing buying behavior for secondhand residences," MBA, Institute of Technology Ayothaya, 2012.
- [2] S. Chantakhad. Marketing mix factors' influences on Bangkok customers' buying behavior for motorcycle," Dhurakij Pundit University, 2012.
- [3] T. Chusoon, "Factors affecting the purchase of condominium," MBA. Rajamangala University of Technology Thanyaburi, 2013.
- [4] W. Porncharoenrot, "Factors affecting buying behavior of retailers in Bangkok for Osram energy-saving lamp," Independent study, MBA (Management), Graduate school, Srinakharinwirot University, Bangkok, 2006.