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The influence of integrated marketing communication on purchase decision making process of EV cars in Bangkok and surrounding areas

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Abstract

This study examines the influence of Integrated Marketing Communications (IMC) tools on the various stages of the purchase decision-making process, specifically focusing on problem/need recognition, information search, evaluation of alternatives, and purchase. The scope of the research, however, excludes the impact of IMC tools on post-purchase behavior, as it concentrates on individuals who express interest in purchasing EV cars. This quantitative analysis investigates the relationships between IMC tools—such as sales promotion, interactive marketing, advertising, public relations, and personal selling—and the stages of the decision-making process. The primary objective is to ascertain how these IMC tools affect the purchase decision-making process by analyzing the interactions between multiple variables and developing a linear model through Multiple Regression Analysis. Data collection will be conducted via an online questionnaire employing a 5-point Likert scale. A total of 384 responses will be gathered using a sampling method deemed appropriate for an unknown population size. Upon completion of the data collection, the researcher will compile the responses for analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, will be employed to summarize the data. In addition, inferential statistics, particularly Multiple Regression Analysis, will be utilized to test the study's hypotheses. The findings indicate that personal selling does not influence the evaluation of alternatives, while interactive marketing does not significantly affect problem/need recognition, information search, evaluation of alternatives, or purchase. Nevertheless, other variables were found to have a significant impact on problem/need recognition, information search, evaluation of alternatives, and purchase decisions.

Keywords: Integrated marketing communications tools, Problem/need recognition, information search, Evaluation of alternatives, Purchase

1. Introduction

As the global community confronts the escalating challenges of global warming, rising temperatures each year are causing profound and widespread climate changes. Terrestrial ecosystems have already experienced significant alterations over the past century, and these transformations are expected to intensify in the coming decades. The rate of these changes could be at least ten times faster, and possibly much more rapid, than what these ecosystems have faced over the past 65 million years (Diffenbaugh & Field, 2013). Human activities, particularly the release of carbon dioxide, have played a pivotal role in the increasing concentration of several greenhouse gases, further exacerbating global warming. The consequences of global warming are extensive, impacting various aspects of life on Earth. These include declines in agricultural productivity, the ongoing melting of glaciers, and the extinction of species. Over time, additional concerns such as ecosystem degradation and threats to human health have also emerged. Experts from diverse fields, including forestry, economics, and national security, have contributed to evaluating these global effects (Kumar et al., 2012). As discussed earlier, global warming and climate change are critical issues, with greenhouse gas emissions being a primary driving factor. Addressing environmental pollution is one of humanity's most urgent challenges, requiring the development of technologies and systems that can reduce or ideally eliminate carbon emissions. The rapid increase in carbon dioxide emissions from industrial and transportation sectors continues to raise the levels of this major greenhouse gas, leading to rising global temperatures with severe and potentially irreversible consequences. The transportation sector, in particular, remains a significant contributor to these emissions (Kashyap & Rastogi, 2021). The transport sector is the largest consumer of energy in Thailand, accounting for over 35 percent of the nation's total energy consumption and contributing approximately 27 percent of its greenhouse gas emissions. In response, a range of policies and strategies have been implemented to reduce energy consumption and emissions across all sectors, with a particular focus on the transport and industrial sectors. While electric vehicles hold promise for reducing energy consumption within the transport sector, they may inadvertently lead to increased greenhouse gas emissions within the power sector. Consequently, policymakers and relevant stakeholders must carefully consider these potential impacts when formulating energy-related environmental policies to ensure balanced outcomes across both sectors (Winyuchakrit et al., 2017). The transport sector remains a significant contributor to greenhouse gas emissions, which are a primary driver of global warming. Mitigating emissions from this sector could play a crucial role in addressing the challenges of climate change. Achieving this goal requires a transition to vehicles that do not emit greenhouse gases, such as electric vehicles that produce zero emissions. This approach aligns with Thailand's ongoing efforts to promote and support policies aimed at reducing energy consumption and emissions. These initiatives are contributing to the rapid expansion of the electric vehicle market in Thailand, intensifying competition among manufacturers and distributors as they strive to capture market share. This study investigates the application of Integrated Marketing Communications (IMC) tools—specifically sales promotion, interactive marketing, advertising, public relations, and personal selling—in informing, persuading, and reminding the target audience in Bangkok and its surrounding areas about the purchase of EV cars. IMC tools represent a suite of marketing communication methods designed to effectively reach the target audience through appropriate channels, with the objective of crafting messages that resonate with consumers or specific consumer segments (Seri, 2004).

This research seeks to investigate the role of integrated marketing communication in influencing the purchase decision-making process for EV cars within the Bangkok metropolitan area and its surrounding regions.

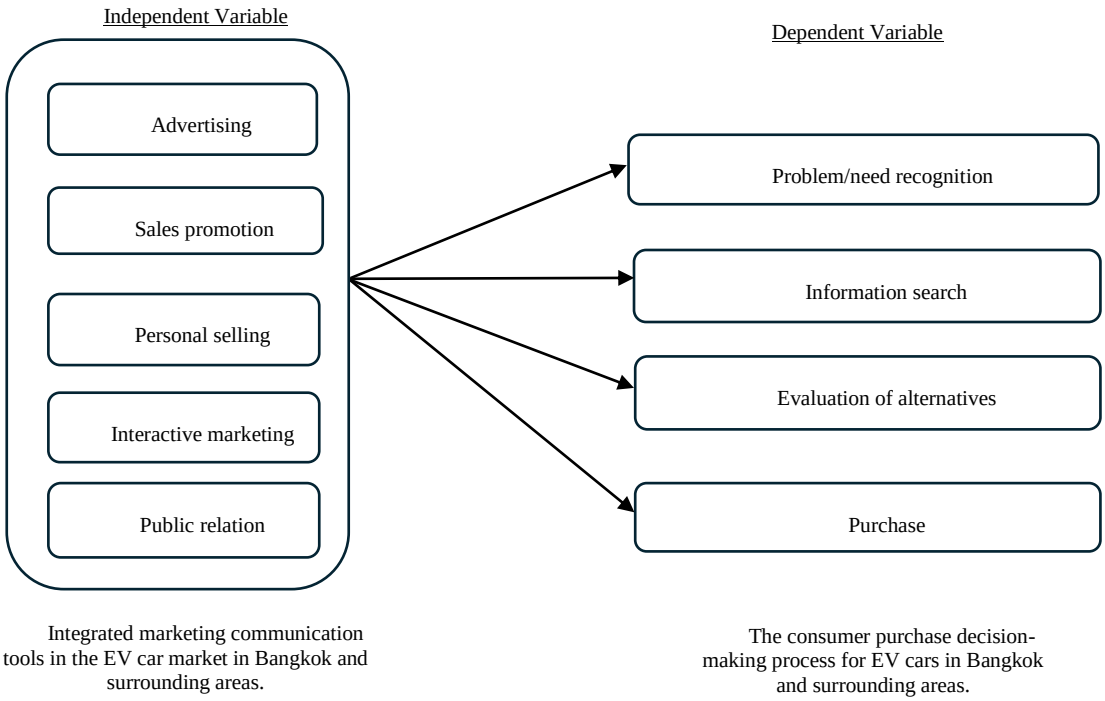
The study is guided by four specific objectives:

1. To evaluate the influence of integrated marketing communication tools on problem/need recognition within the consumer purchase decision-making process for EV cars in Bangkok and surrounding areas.
2. To evaluate the impact of integrated marketing communication tools on the information search phase within the consumer purchase decision-making process for EV cars in Bangkok and surrounding areas.
3. To evaluate the effects of integrated marketing communication tools on the evaluation of alternatives within the consumer purchase decision-making process for EV cars in Bangkok and surrounding areas.
4. To evaluate the influence of integrated marketing communication tools on the purchase stage of the consumer decision-making process for EV cars in Bangkok and surrounding areas.

2. Literature Review

Analyzing the impact of integrated marketing communication (IMC) on the consumer decision-making process is a complex task that requires a thorough examination of the relationships and mechanisms through which IMC exerts its influence. Validating the model developed for this purpose involves exploring the interactions among IMC components and the processes that shape consumer behavior. This validation is most effectively achieved by combining qualitative research methods, such as focus group studies, with quantitative approaches, such as surveys. As IMC has become a crucial strategy for achieving organizational goals, it is essential to identify opportunities to enhance its effectiveness in influencing consumer behavior (Mihart, 2012). In today's information-rich environment, consumers access a wide range of information sources, making integrated marketing communication even more important. Targeted IMC campaigns capitalize on the strengths of various communication tools to positively influence the behavior of the target audience. Crafting an effective message and choosing the most appropriate communication tools are essential steps in shaping and maintaining consumer preferences for a particular product, brand, or company (Mihaela, 2015). Advertising, public relations, personal selling, sales promotion, and direct marketing are essential components of Integrated Marketing Communication (IMC) that significantly influence consumer purchasing behavior, particularly in terms of purchase frequency over a three-month period. As a result, business owners should focus on these elements to encourage increased consumer purchases (Pisit, 2014). Consumer feedback consistently shows a preference for companies that effectively integrate IMC activities. With numerous brands available, well-informed consumers are more likely to be influenced by those that engage them most effectively. Among IMC tools, advertising and sales promotions have been identified as the most impactful, indicating that consumers interact with these methods more frequently than with others (Umbreen & Ali, 2013). This study underscores the crucial role of IMC in shaping consumer behavior. Therefore, this research hypothesizes that IMC may significantly influence the purchase decision-making process for EV cars in the Bangkok metropolitan area and surrounding regions.

Figure 1: Study framework



Source: Manually draw the study framework in Microsoft Word.

3. Methodology

This study investigates the impact of integrated marketing communications (IMC) on the decision-making process of potential EV car buyers in the Bangkok metropolitan region and surrounding areas, including Nonthaburi, Pathum Thani, Nakhon Pathom, Samut Prakan, and Samut Sakhon. The research focuses on individuals aged 25 and older with a monthly income of at least 25,000 baht.

The research process begins with the collection of secondary data through a comprehensive review of relevant literature, theories, and previous studies from both online sources and the library at Kasetsart university. Descriptive research methods are employed, with data collected via surveys using questionnaires specifically designed to examine IMC and its influence on the decision-making process for EV car purchases among participants in the Bangkok metropolitan area and its adjacent regions. Following the completion of the questionnaires, the data is compiled and subjected to analysis. Descriptive statistics, including frequency distributions, percentages, means, and standard deviations, are utilized to summarize the data. In addition, inferential statistics are employed to test the hypotheses through multiple regression analysis. This method enables the examination of interactions among various variables and the development of a linear equation to elucidate how IMC tools influence purchasing decisions, ultimately identifying the most significant relationships and factors that exert the greatest impact on the outcome variable

3.1. Population

This study targets individuals interested in purchasing EV cars who reside within the Bangkok metropolitan area and its adjacent regions, including Nonthaburi, Pathum Thani, Nakhon Pathom, Samut Prakan, and Samut Sakhon. The study population consists of

participants aged 25 years and older with an average monthly income of at least 25,000 baht. However, the precise size of this demographic has yet to be determined.

3.2. Sample group

Due to the inability to determine the exact number of individuals aged 25 and older, with an average income of at least 25,000 baht, who are interested in purchasing EV cars in Bangkok and the surrounding areas, including Nonthaburi, Pathum Thani, Nakhon Pathom, Samut Prakan, and Samut Sakhon, a sampling method for an unknown population size was employed. The sample size was calculated using Cochran's formula (Sirichai, 2009).

The formula used is as follows: $n = \frac{Z^2}{4 \times (e)^2}$ (1)

Let n is the size of the sample group.
Z is the standard normal value obtained from the standard normal distribution table, which depends on the specified confidence level (at a 95% confidence level, Z equals 1.96).
e is the maximum acceptable margin of error, set at 5% (or 0.05).

The calculation method is as follows: $n = \frac{(1.96)^2}{4 \times (0.05)^2}$

$n = 384.16$

The resulting sample size was 384.16. Accordingly, 384 questionnaire sets were collected for this study. These questionnaires were distributed to individuals interested in purchasing EV cars who reside in the Bangkok metropolitan area and surrounding regions, including Nonthaburi, Pathum Thani, Nakhon Pathom, Samut Prakan, and Samut Sakhon. The participants were 25 years or older and had an average income of at least 25,000 baht.

Table 3.1 reports a Cronbach's alpha of 0.933, indicating a high level of reliability for the questionnaire. Given that a Cronbach's alpha value of 0.7 or higher is generally deemed acceptable, this result substantiates the internal consistency of the instrument. Additionally, the number of items presented in the table corresponds to the total number of questions associated with the independent variables within the questionnaire.

Table 3.1: Reliability measured by Cronbach's Alpha

Cronbach’s Alpha	N of Item
.933	17

Source: SPSS Results

Table 3.2 reports a Cronbach's alpha value of 0.956, thereby affirming the reliability of the questionnaire. Given that a Cronbach's alpha value of 0.7 or higher is typically regarded as acceptable, this finding substantiates the internal consistency of the instrument. Furthermore, the number of items presented in the table corresponds to the total number of questions related to the dependent variables within the questionnaire.

Table 3.2: Reliability measured by Cronbach's Alpha

Cronbach’s Alpha	N of Item
.956	16

Source: SPSS Results

4. Research Result

This chapter provides a succinct overview and comprehensive analysis of the research study. The researcher prepared and distributed a total of 384 questionnaire sets, which were subsequently analyzed and interpreted utilizing the Statistical Package for the Social Sciences (SPSS) software.

Table 4.1: Outlines the integrated marketing communication (IMC) tools that influence the problem/need recognition stage of the purchase decision-making process for EV cars in the Bangkok metropolitan area and surrounding regions.

IMC	Unstandardized (b)	SE	Standardized (Beta)	t	Sig.
(Constant)	1.728	0.240		7.198	0.000
Advertising	0.205	0.049	0.222	4.147	0.000*
Public Relations	0.193	0.044	0.223	4.373	0.000*
Sales promotion	0.127	0.051	0.135	2.486	0.013*
Personal Selling	0.138	0.048	0.158	2.864	0.004*
Interactive marketing	-0.071	0.053	-0.077	-1.341	0.181
R =	.501a	Adjusted R^2 =	0.241		
R^2 =	0.251	SE =	0.37934		

*Source: SPSS Results. *The results were statistically significant at the 0.05 level.*

Table 4.1 illustrates that the variables of advertising, public relations, sales promotion, and personal selling, each exhibiting significant correlations at the 0.05 level, play a critical role in problem/need recognition within the purchase decision-making process for EV cars in the Bangkok metropolitan area and its surrounding regions. Specifically, the coefficients for advertising, public relations, sales promotion, and personal selling are 0.205, 0.193, 0.127, and 0.138, respectively. These findings suggest that a one-unit increase in each of these factors corresponds to an increase of 0.205, 0.193, 0.127, and 0.138, respectively, in problem/need recognition during the purchase decision-making process for EV cars.

Table 4.2: Outlines the integrated marketing communication (IMC) tools that influence the information search stage of the purchase decision-making process for EV cars in the Bangkok metropolitan area and surrounding regions.

IMC	Unstandardized (b)	SE	Standardized (Beta)	t	Sig.
(Constant)	1.665	0.236		7.041	0.000
Advertising	0.227	0.049	0.245	4.663	0.000*
Public Relations	0.139	0.043	0.160	3.212	0.001*
Sales promotion	0.197	0.050	0.207	3.905	0.000*
Personal Selling	0.139	0.047	0.158	2.934	0.004*
Interactive marketing	-0.068	0.052	-0.074	-1.319	0.188
R =	.530a	Adjusted R^2 =	0.281		
R^2 =	0.271	SE =	0.37355		

*Source: SPSS Results. *The results were statistically significant at the 0.05 level.*

Table 4.2 demonstrates that the variables of advertising, public relations, sales promotion, and personal selling, all of which exhibit significant correlations at the 0.05 level, play a critical role in the information search phase of the purchase decision-making process for EV cars in the Bangkok metropolitan area and its surrounding regions. Specifically, the coefficients for advertising, public relations, sales promotion, and personal selling are 0.227, 0.139, 0.197, and 0.139, respectively. These findings imply that a one-unit increase in each of these factors corresponds to a respective increase of 0.227, 0.139, 0.197, and 0.139 in the information search phase of the purchase decision-making process for EV cars.

Table 4.3: Outlines the integrated marketing communication (IMC) tools that influence the evaluation of alternatives stage in the purchase decision-making process for EV cars in the Bangkok metropolitan area and surrounding regions.

IMC	Unstandardized (b)	SE	Standardized (Beta)	t	Sig.
(Constant)	1.917	0.227		8.443	0.000
Advertising	0.152	0.047	0.176	3.246	0.001*
Public Relations	0.102	0.042	0.126	2.450	0.015*
Sales promotion	0.200	0.048	0.226	4.130	0.000*
Personal Selling	0.066	0.046	0.081	1.457	0.146
Interactive marketing	0.036	0.050	0.042	0.727	0.467
R =	.485a	Adjusted R^2 =	0.225		
R^2 =	0.235	SE =	0.35874		

*Source: SPSS Results. *The results were statistically significant at the 0.05 level.*

Table 4.3 illustrates that the variables of advertising, public relations, and sales promotion, each exhibiting significant correlations at the 0.05 level, play a critical role in the evaluation of alternatives within the purchase decision-making process for EV cars in the Bangkok metropolitan area and surrounding regions. Specifically, the coefficients for advertising, public relations, and sales promotion are 0.152, 0.102, and 0.200, respectively. These results indicate that a one-unit increase in each of these variables corresponds to increases of 0.152, 0.102, and 0.200, respectively, in the evaluation of alternatives within the EV cars purchase decision-making process.

Table 4.4: Outlines the integrated marketing communication (IMC) tools that influence the purchase stage of the decision-making process for EV cars in the Bangkok metropolitan area and surrounding regions.

IMC	Unstandardized (b)	SE	Standardized (Beta)	t	Sig.
(Constant)	1.855	0.200		9.260	0.000
Advertising	0.156	0.041	0.196	3.786	0.000*
Public relations	0.140	0.037	0.188	3.817	0.000*
Sales promotion	0.095	0.043	0.116	2.217	0.027*
Personal selling	0.170	0.040	0.225	4.225	0.000*
Interactive marketing	0.017	0.044	0.021	0.383	0.702
R =	.548a	Adjusted R^2 =	0.291		
R^2 =	0.301	SE =	0.31645		

*Source: SPSS Results. *The results were statistically significant at the 0.05 level.*

Table 4.4 demonstrates that the variables of advertising, public relations, sales promotion, and personal selling, each of which exhibits significant correlations at the 0.05 level, play a critical role in the purchase phase of the decision-making process for EV cars in the Bangkok metropolitan area and surrounding regions. Specifically, the coefficients for advertising, public relations, sales promotion, and personal selling are 0.156, 0.140, 0.095, and 0.170, respectively. These results suggest that a one-unit increase in each of these factors corresponds to increases of 0.156, 0.140, 0.095, and 0.170 in the likelihood of purchase within the EV cars decision-making process.

5. Conclusion

5.1. Discussion

The research findings suggest that nearly all Integrated Marketing Communications (IMC) tools exert a significant influence on the decision-making process of potential EV car buyers in the Bangkok Metropolitan Region and its surrounding areas, including Nonthaburi, Pathum Thani, Nakhon Pathom, Samut Prakan, and Samut Sakhon. These consumers are 25 years of age or older and earn a minimum of 25,000 Baht per month. The primary objective of the study was to evaluate the impact of IMC tools on the problem/need recognition stage of the consumer purchase decision-making process for EV cars in Bangkok and its adjacent areas. The results indicate that nearly all IMC tools positively affect this stage, with the exception of interactive marketing. This observation is consistent with (Mihart,2012) assertion that IMC has become a critical approach for achieving organizational objectives, and it is crucial to identify opportunities to enhance its influence on consumer behavior. The second objective of this study was to evaluate the impact of integrated marketing communication (IMC) tools on the information search stage of the consumer purchase decision-making process for EV cars in Bangkok and its surrounding areas. The findings reaffirm that the majority of IMC tools have a significantly positive influence on this stage, with the exception of interactive marketing. This outcome is consistent with the work of (Mihaela, 2015), who observed that highly targeted IMC campaigns effectively utilize the strengths of various communication tools to shape and positively influence target audience behavior. The third objective of the study was to evaluate the impact of integrated marketing communication (IMC) tools on the evaluation of alternatives stage within the consumer purchase decision-making process for EV cars in Bangkok and its surrounding areas. The findings indicate that nearly all IMC tools exert a significantly positive influence on this stage, with the exception of personal selling and interactive marketing. This observation aligns with the research of (Umbreen & Ali , 2013), which suggests that consumer feedback strongly favors the integration of IMC activities by firms. The fourth objective was to examine the effect of IMC tools on the purchase stage of the consumer purchase decision-making process for EV cars in Bangkok and its surrounding areas. The results reveal that most IMC tools positively influence this stage, with the exception of interactive marketing. This finding is consistent with the research of (Pisit, 2014), which identifies advertising, public relations, personal selling, sales promotion, and direct marketing as key IMC components that shape purchasing behavior.

5.2. Recommendation

Firstly, this research highlights the influence of integrated marketing communications (IMC) in advertising on the decision-making process for purchasing EV cars in the Bangkok metropolitan area and its surrounding regions. This influence is evident across all four stages of the decision-making process: problem/need recognition, information search, evaluation of

alternatives, and purchase. Therefore, companies that manufacture or distribute EV cars should prioritize increasing television advertisements, boosting social media presence, expanding billboard campaigns, and enhancing print media advertising through outlets such as newspapers. Secondly, the research emphasizes how IMC in public relations impacts the decision-making process for buying EV cars in the Bangkok metropolitan area and surrounding regions. This impact is observed across all four stages: problem/need recognition, information search, evaluation of alternatives, and purchase. Consequently, companies should focus on increasing press releases, facilitating media interviews with company personnel, and expanding the distribution of company documents. Thirdly, this research underscores the role of IMC in sales promotion in influencing the decision-making process for buying EV cars in the Bangkok metropolitan area and surrounding regions. This influence extends across all four stages: problem/need recognition, information search, evaluation of alternatives, and purchase. Therefore, companies should focus on increasing discount offers, enhancing bonuses or services related to EV cars—such as comprehensive insurance or nationwide delivery—and offering additional incentives like portable air purifiers or fragrances. Lastly, the research illustrates the impact of IMC in personal selling on the decision-making process for buying EV cars in the Bangkok metropolitan area and surrounding regions. This influence is particularly strong during the stages of problem/need recognition, information search, and purchase. Thus, companies should prioritize increasing contact between sales representatives or dealers and customers to provide information about EV car products and various promotions.

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