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Digital Transformation in Malaysia's Advertising: The Influence of Advertising Analytics 2.0

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Abstract
Purpose: This research mainly focused on the impact of Advertising Analytics 2.0 on Malaysia's advertising industry and analyzed the factors influencing its adoption and usage. This research mainly focused on the lack of detailed literature on the influence of Advertising Analytics 2.0 on Malaysian advertisers' and marketers' behaviors, the challenges of transitioning to analytics-driven strategies, the shortage of skilled professionals, the demand for more user-friendly tools, and the need for comprehensive understanding and ethical considerations of these advanced analytics.
Design/methodology/approach: To ensure a thorough analysis, we applied both quantitative and qualitative research methods. Surveys, the primary tool for collecting quantitative data, produce numeric data that is subsequently analyzed using descriptive statistics, regression analysis, factor analysis, and inferential analysis. For qualitative data, we used interviewees, document examination, detailed observations, and theme and content investigation.
Findings: The results will provide findings on the current and future use of Advertising Analytics 2.0 in Malaysia's advertising industry.
Research limitations/implications: The study had a small sample size and some limitations to its methods. More research is needed to understand the long-term effects of Advertising Analytics 2.0 on Malaysia's advertising and marketing industries.
Practical implications: The primary focus is to guide and assist industry experts or professionals and decision makers by examining the factors that encourage or deter the use of these new analytics and highlight the significance of adopting data-driven strategies and their potential implications for Malaysia's advertising industry, to maximize advertising potential and efficiency through data-driven marketing strategies.
Originality/value: There are several elements, such as perceived ease of use and usefulness from TAM, perceived behavioral control, subjective norms and attitudes from TPB, and the three qualities from the ISSM system, information and service, which play a role in determining a system's effectiveness and acceptance.

Keywords: Advertising Analytics 2.0, Adoption Factors, Mixed-Methods Research, Malaysian Advertising Industry, Data-Driven Marketing

Introduction

The introduction of the Advertising Analytics 2.0 tool has initiated a new trend toward data-driven decision-making (Ahmed et al., 2019) In advertising and marketing, combining big data with artificial intelligence to revolutionise the operation in our country (Caliskan et al., 2020).

This study examines the impact of Advertising Analytics 2.0 on the strategies of professionals in the Malaysian advertising industry, highlighting its role in developing the industry, shaping marketing plans, and enhancing promotional activities (Steigerwald et al., 2022). This research aims to fill a knowledge gap by examining the transformation of advertising analytics from its current 2.0 version and its specific impact on the advertising sector in Malaysia.

This study examines the factors influencing the adoption of Advertising Analytics 2.0 (Faruk et al., 2022), including ease of use, usefulness, attitudes, social norms, behaviour control, and the three system qualities, information, and services. It also outlines the research methods, theoretical frameworks, and potential effects on academia and industry.

The research provides insights into advertising analytics and its practical applications, emphasising its significance for the future of advertising and marketing in Malaysia. These findings offer valuable information for industry development and strategic success in the digital age.

Literature Review

An Overview of Literature Review

Advertising Analytics 2.0 has significantly affected the marketing industry in Malaysia and is being driven by the increased adoption of digital technology. The new tools and strategies aim to connect with the next generation and provide businesses with valuable insights to assess the effectiveness of their advertising expenditures (Sama, 2019). This review combines existing research to identify the essence of Advertising Analytics 2.0 and its influence on advertiser and marketer behaviors.

Evolution of Advertising Analytics

The new version of 2.0 analytics for traditional advertising is both transformative and informative (Huh & Malthouse, 2020). This version is enhanced by the combination of big data, which provides crucial information for analyzing insights, patterns, and trends. Artificial intelligence (AI) uses this information to forecast consumer behavior.

This combination allows for highly personalized advertising by understanding consumer needs, enabling personalized messages, and easier connections with others (Haleem et al., 2022). This effective evolution can advance analysis tools and techniques (Davis et al., 2021).

Impact of Advertising and Marketing Practices

The new version of Advertising Analytics 2.0 identified a significant trend toward collecting data on marketing strategies and consumer engagement in Malaysia (Faruk et al., 2022). Many companies have started using this new analytics to promote their products to any specific customer group to increase the effectiveness of their marketing and sales efforts, not only globally but also prominently in Malaysia (Khan et al., 2020).

This new method has directly helped companies integrate their operations to gain a competitive edge. Apart from this, these practices have made the advertiser and marketer

understand more about customers' preferences and personalize their marketing strategies to target a wider audience. (Hossain et al., 2020).

Theoretical Frameworks

The TAM, TPB, and ISSM models have been integrated as theoretical frameworks to gain a deeper understanding of how new analytics have influenced advertiser and marketer behavior (Sujood et al., 2022). The first model is the Technology Acceptance Model (TAM), which explains two important variables: perceived usefulness and perceived ease of use, as shown in **Figure 1** (Adeyemi & Issa, 2020).

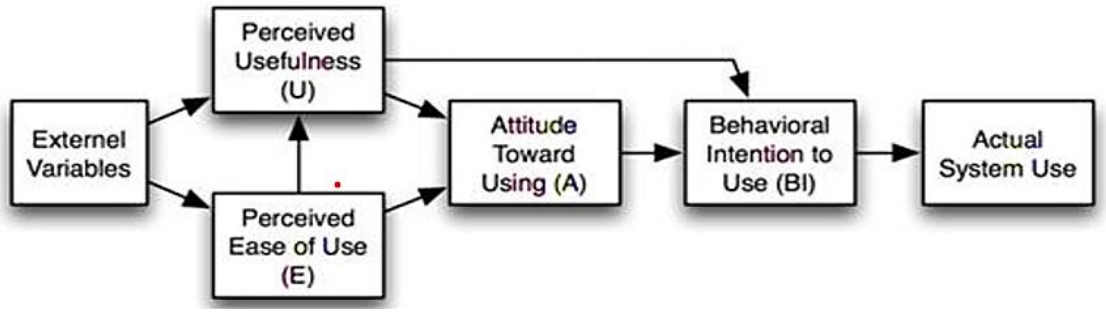

Figure 1: Technology Acceptance Model (Enu-Kwesi & Opoku, 2020)

Table 1: Explanation of the Theoretical Framework and ***Technology Acceptance Model***

Independent Variables	Explanation
PU	How advertisers and marketers in Malaysia can adopt Analytics Version 2.0 to improve their business strategies globally (Mustafa & Garcia, 2021).
PEU	How advertisers and marketers in Malaysia can adopt Analytics Version 2.0 to improve their technological infrastructure in Malaysia (Mustafa & Garcia, 2021).

Note: PU = Perceived Usefulness
PEU = Perceived Ease of Use

Table 1 explains the inner variables of the TAM model and how advertisers and marketers can adopt the new Advertising Analytics 2.0 into their daily business operations and strategies. The second model is the Theory of Planned Behaviour (TPB), which explains three important variables: attitudes, subjective norms and perceived behavioural control, as shown in Figure 2 (Adeyemi & Issa, 2020).

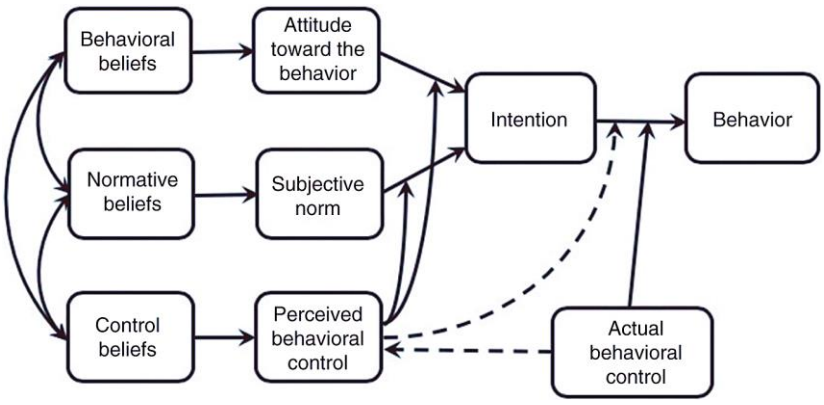

Figure 2: Theory of Planned Behaviour (Sujood et al., 2022)

Table 2: Explanation of the Theoretical Framework and ***the Theory of Planned Behaviour***

Independent Variables	Explanation
PBC	The belief by advertisers and marketers in Malaysia regarding the new Analytics Version 2.0 and its impact on the digital advertising industry (Adeyemi & Issa, 2020).
SN	Social pressures perceived by advertisers and marketers in Malaysia regarding their adoption (Adeyemi & Issa, 2020).
AT	The positive and negative opinions by advertisers and marketers in Malaysia about the technology (Adeyemi & Issa, 2020).

Note: PBC = Perceived Behavioural Control
SN = Subjective Norms
AT = Attitudes

Table 2 explains the inner variables of the TPB model and how advertisers and marketers can adopt the new Advertising Analytics 2.0 into their daily business operations and strategies.
The last model is the Information System Success Model (ISSM), which explains three important variables: system quality, information quality and service quality, as shown in Figure 3 (Adeyemi & Issa, 2020).

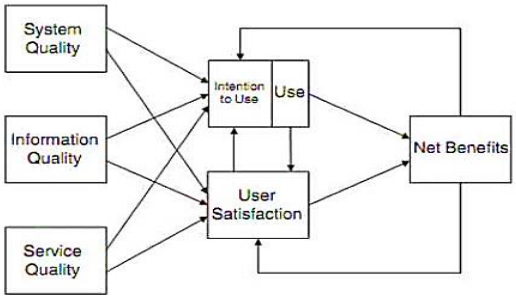

Figure 3: Information System Success Model (Adeyemi & Issa, 2020)

Table 3: Explanation of the Theoretical Framework and *Information System Success Model*

Independent Variables	Explanation
SQ	Perceived fidelity by advertisers and marketers in Malaysia regarding the new Analytics Version 2.0 platforms in Malaysia's digital marketing industry (Adeyemi & Issa, 2020).
IQ	Accuracy, relevance and timeliness of the data provided by the new Analytics Version 2.0 platforms in Malaysia's digital marketing industry (Adeyemi & Issa, 2020).
SQ	Quality of support and training available to advertisers and marketers in Malaysia's digital marketing industry (Adeyemi & Issa, 2020).

Note: SQ = System Quality
IQ = Information Quality
SQ = Service Quality

Table 3 explains the inner variables of the ISSM model and how advertisers and marketers can adopt the new Advertising Analytics 2.0 into their daily business operations and strategies.

Figure 4 shows the fully integrated models TAM, TPB, and ISSM. This framework demonstrates how these three models can be combined and integrated into the advertisers' and marketers' behaviors. This framework clearly defines independent and dependent variables. The proposed framework also clearly describes each inner variable in each model. From this model, nine hypotheses are derived to support the dependent variables.

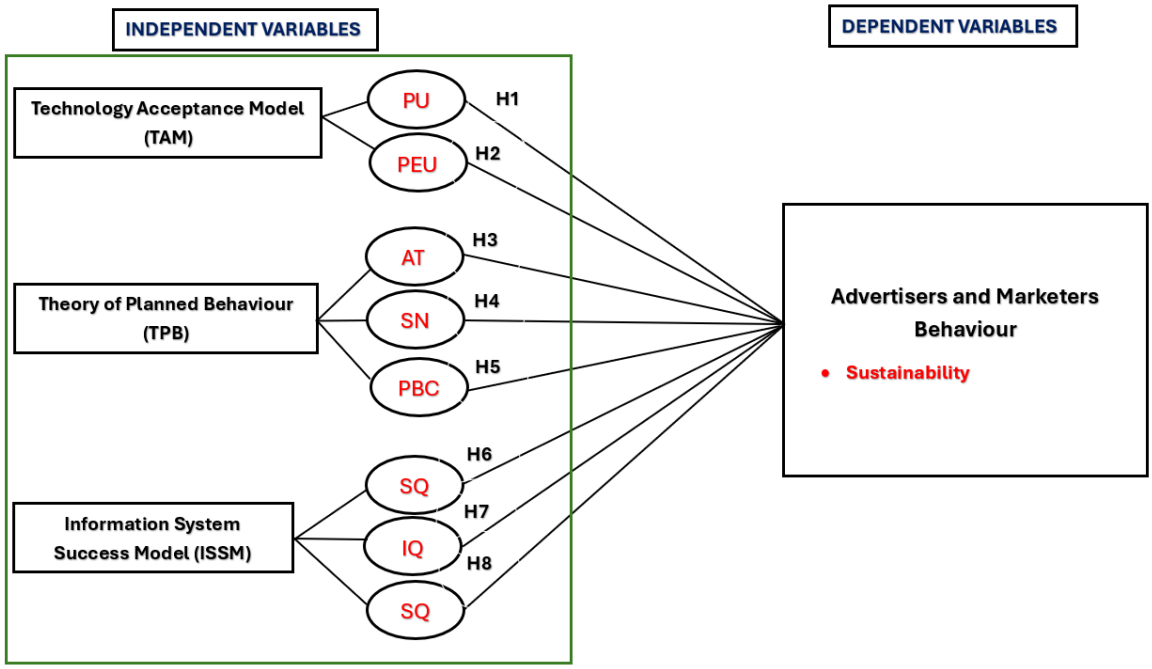

Figure 4: Theoretical Framework

Hypothesis Development

Based on the theoretical framework, the three models are combined and integrated into the advertisers' and marketers' behaviors. From this, independent variables can derive nine hypotheses to support dependent variables, showing how this new version 2.0 advertising analytics can significantly affect the advertisers' and marketers' behaviour. Each hypothesis was explained individually, as shown in Table 1. The table also clearly states the short form of the inner variable for each model, as mentioned above and shown in Figure 4.

Table 4: Hypothesis Development

Hypothesis	Explanation
H1 (PU)	Perceived usefulness of Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.
H2 (PEU)	Perceived ease of use of Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.
H3 (AT)	Attitudes toward Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.
H4 (SN)	Subjective norms of Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.
H5 (PBC)	Perceived Behavioural Control of Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.

H6 (SQ)	System quality of Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.
H7 (IQ)	Information quality of Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.
H8 (SQ)	Service quality of Advertising Analytics 2.0 can significantly affect the advertisers' and marketers' behaviour.

Methodology

This study uses both quantitative and qualitative analysis, utilizing a mixed-method approach to explore advertiser and marketer behaviour in adopting new tools and techniques for their businesses. The focus is on understanding the awareness and implementation of Advertising Analytics 2.0 by companies in Malaysia. Specifically, it examines whether these companies have adopted the new version or continue to use the old one. This mixed-methods approach was essential for this study.

Qualitative analysis was conducted by interviewing industry professionals and analytics experts to gain deeper insights into the implementation and awareness of Advertising Analytics 2.0 among advertisers and marketers in Malaysia.

Quantitative analysis was conducted by distributing questionnaires. This broader analysis gathered a vast amount of information from respondents in the advertising and marketing industry to explore new adoption trends and factors affecting such adoption in Malaysia.

A complete flowchart was developed based on the research problem and the decision to use a mixed-methods approach. Before conducting the analysis, the research method and planning are outlined. Figure 5 illustrates the implementation of both quantitative and qualitative analyses. The structures for both analyses have been fully developed. It details how the analysis will be performed, the sampling method for quantitative analysis, and the data collection method. The types of analyses to be conducted are neatly structured in Figure 5.

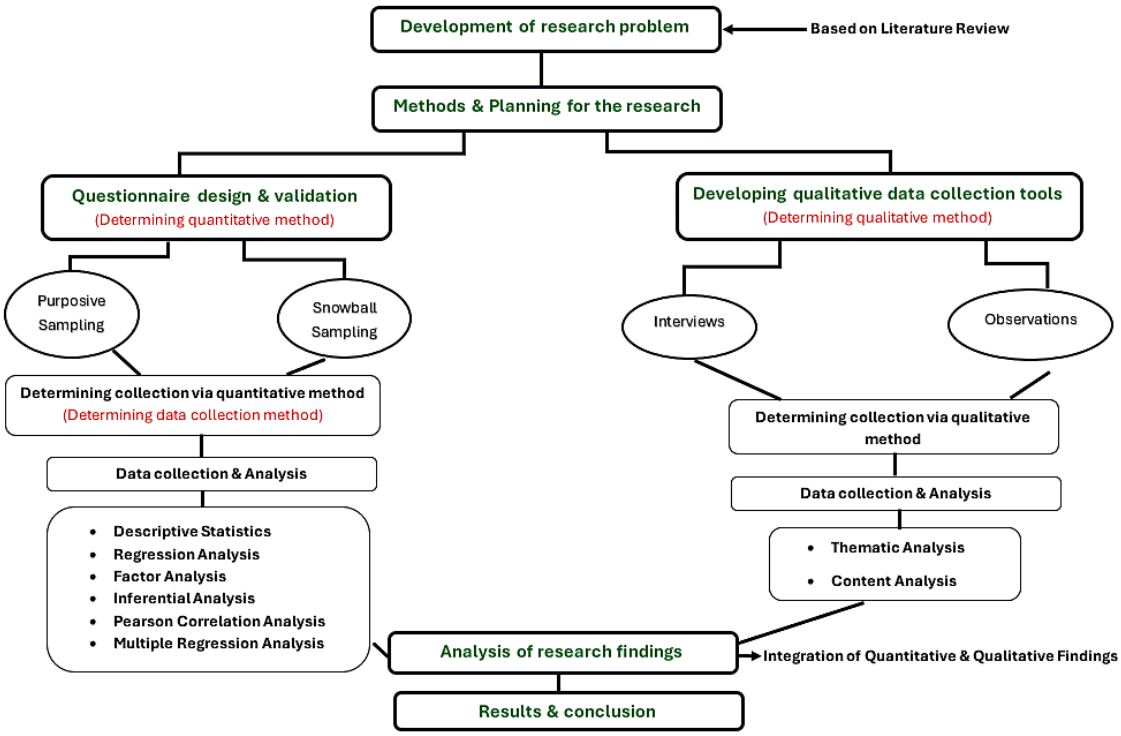

Figure 5: Flow Chart of the Research Methodology

Population and Sampling

This study targets industry professionals and analytics experts to gain deeper insights into the implementation and awareness of Advertising Analytics 2.0 among advertisers and marketers in Malaysia. Two sampling methods were chosen for this study: purposive sampling, a non-random method, and snowball sampling. The sample size was determined by continuing data collection until no new information was revealed. Saturation was reached when no new information or themes were observed in the data from 100 participants. Therefore, after analyzing responses from 100 participants and reaching a point at which no additional new information was gained, we concluded that this sample size was sufficient for the study.

Data Collection Methods

The data collection process utilized several methods. One method was structured questionnaires designed to gather specific data related to the adoption and use of Advertising Analytics 2.0. Another method involved semi-structured interviews, interviewing industry professionals and analytics experts to gain deeper insights into the implementation and awareness of Advertising Analytics 2.0 among advertisers and marketers in Malaysia. This approach allowed for in-depth discussions about their use of Advertising Analytics 2.0, including their expectations and difficulties. Lastly, this study reviewed various documents, such as industry reports, previous studies, and internal company documents, to gather additional information and context about advertising industry practices. These methods together provided a comprehensive overview of Advertising Analytics 2.0 usage in the advertising industry.

Data Analysis Techniques

This study utilized various techniques for both quantitative and qualitative analysis. The questionnaire has been distributed to the respondents from the advertising and marketing industry in Malaysia. Let us say, if we distribute for 100 companies about the implementation of Advertising Analytics 2.0 from the 100 only 80 companies confirmed that their companies use and implement the new version of analytics, which automatically indicates that 80% of these advertising and marketing industry companies employed new tools and techniques for their daily business operation businesses.

For quantitative analysis, descriptive statistics were utilized to examine the data's characteristics, such as the average weekly use of the new tool to support business sales and revenues. Inferential analysis was employed to make predictions based on the data from the surveyed companies. For example, the study can use information from 100 companies to figure out the behavior of other companies in Malaysia's advertising and marketing industry.

For qualitative analysis, data were gathered to answer questions of "why" and "how." These answers were obtained through interviews with industry professionals and reviews of company documents. For instance, interviewing the head of marketing analytics provided insights into their companies. Thematic analysis was employed to interpret this data.

Validation and Reliability

This study involves collecting data from various sources and comparing them for consistency. It is like gathering multiple witness accounts of an event. If these accounts are aligned, the details of the event can be confirmed accurately. In this study, we aimed to confirm our findings by collecting data using several methods. If these methods all led to the same conclusion, the validity of our results could be more certain.

To enhance the trustworthiness of our qualitative analysis, we conducted a "rater reliability check." This practice is like having another individual review the work to minimize the

impact of personal biases on data analysis. By involving an additional reviewer, we can ensure the reliability of our results, and we are confident that they are not solely based on one person's interpretation. These combined methods ensured our study's accuracy and trustworthiness.

Results

This study employs a mixed-method analysis, using both quantitative and qualitative approaches to examine the behavior of advertisers and marketers in Malaysia with the new tool, Analytics 2.0.

Quantitative analysis results were derived from questionnaires completed by respondents in Malaysia's advertising and marketing industry. This analysis examines the implementation and awareness of Advertising Analytics 2.0 in their companies and whether they continue to use traditional business strategies.

Qualitative results were obtained by interviewing analytics experts and industry professionals. These interviews provided data on personal experiences, viewpoints on the new tool and techniques, its adoption and use, and behavior towards using analytics. The study also highlights obstacles encountered when implementing this tool in companies. Companies.

Table 5: Frequency and Percentage of Companies Using Advertising, Marketing, and Analytics Strategies

	Advertising	**Marketing**	**Analytics**
Yes	28 (45.2%)	45 (72.6%)	23 (37.1%)
No	15 (24.2%)	0 (0%)	11 (17.7%)
Maybe	3 (4.8%)	1 (1.6%)	12 (19.4%)
N/A	16 (25.8%)	16 (25.8%)	16 (25.8%)
Total	62 (100%)	62 (100%)	62 (100%)

Note: The frequency and percentage of companies using advertising, marketing, and analytics strategies are shown in Table 5.

From this table, the data has been collected from 62 different companies to obtain the information and the percentage of companies using advertising, marketing, and analytics strategies simultaneously. 45.2% of the companies included in the survey employ advertising strategies, while a significant majority of 72.6% utilize marketing strategies. Compared to advertising and marketing, the usage of analytics is lower than the rest, only 37.1%.

However, there is a significant number of companies (25.8%) for which information about their use of these strategies is not available or not applicable. This information may be because the company does not reveal the information. After all, certain companies keep the information private and confidential or maybe the company is still not aware of this. Overall, this report provides an overview of the adoption trends of advertising, marketing, and analytics strategies and a deeper analysis using inferential statistics will be conducted to further explore and understand these trends.

Table 6: Companies Combining Advertising, Marketing, and Analytics Strategies

Strategies in Use	Number of Companies: The Company-based	Percentage
Advertising, Marketing & Analytics	20	32.3%
Others	42	67.7%
Total	62	100%

Note: The companies combining advertising, marketing and analytics strategies are shown in Table 6.

Based on our analysis, it was determined that approximately 32.3% of the companies have recognized the potential of utilizing all three strategies: advertising, marketing, and analytics. The suggestion made here is that these companies should understand the significance of adopting a comprehensive strategy that encompasses both traditional marketing and advertising techniques and data-driven analytics.
However, most companies (67.7%) use other combinations of strategies that include analytics. This indicates that although some companies have fully embraced analytics, a significant percentage have yet to fully integrate this data-driven approach into their overall strategy. These findings provide an interesting snapshot of current business strategies and highlight the ongoing transition toward more data-driven approaches in the industry.

Table 7: Companies Using Advertising, Marketing, and/or Analytics Strategies

Strategies in Use	Number of Companies: The Company-based	Percentage
Advertising, Marketing & Analytics	28	45.2%
Others	20	32.3%
Total	14	22.5

Note: The companies using advertising, marketing, and/or analytics strategies are shown in Table 7.

From our analysis, we found that 45.2% of the companies used both advertising and marketing strategies. However, when we consider the adoption of analytics, the number drops to 32.3%. According to this suggestion, most companies still rely on traditional marketing and advertising methods, whereas only a smaller percentage have adopted analytics strategies.
Multiple factors may contribute to this disparity. For instance, analytics, which is a more recent development in business strategy, requires specific skills and resources that not all companies possess. These findings highlight the importance of further research to know the barriers to the adoption of analytics and how they can be overcome.

Discussion

This finding shows that Advertising Analytics 2.0 has had a positive impact on advertisers and marketers in the Malaysian advertising and marketing industry, aligning with the theoretical framework discussed in previous research. From the survey conducted, out of 62 companies, 37.1% are implementing advanced analytics. This indicates that most companies have started using the new tool in their industries to promote their products and support their sales. This advanced analytics helps companies improve their advertising and marketing

strategies by providing important information to better target and personalize their advertising and marketing efforts.

For quantitative analysis, vast amounts of data have been used, and AI helps companies to advertise more effectively and efficiently. Responses from the surveys show that the companies all started using these new advanced technologies to improve and engage better with targeted consumers and tend to achieve higher returns on investment (ROI) from their sales and promotions.

However, qualitative analysis findings revealed some challenges and obstacles from professional interviews and several document reviews to completely adapt to a new system. Certain issues were highlighted, such as data privacy concerns and the need for ethical guidelines on a certain topic in current research. The easy interfaces and skilled workers are needed, as mentioned in qualitative data, as highlighted by the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB).

Overall, this study found that Advertising Analytics 2.0 is the best transformative tool for the advertising and marketing industries in Malaysia. This integration of new analytics not only enhances personalised business but also gives priority to ethical considerations and professional development of the companies.

The findings from this study mentioned how important it is to use data analysis and statistical approaches to make proper decisions and strategies to help businesses operate and outperform their competitors. Moreover, this study suggests that further studies are needed to determine the awareness of long-term use of these analytics. This study contributes valuable information about Advertising Analytics 2.0 to help industrial professionals and decision-makers with their planning.

Conclusion and Implications

This study explores how this new Advertising Analytics 2.0 is affecting the advertising and marketing industry in Malaysia. This study has shown that most companies are now using data to guide their advertising strategies. Big data and AI have made advertising more efficient and effective, even though certain issues occur, such as data privacy concerns and the need for ethical rules.

To make the most out of these analytics tools, Malaysian companies should invest in professional development, user-friendly infrastructure, and ethical guidelines. This study needs more research to guide future advertising practices.

Both quantitative and qualitative methods have been used to assess the adoption and effects of new advanced analytics 2.0. The results show clearly that the new trend towards this new tool significantly improves campaign targeting and personalization, leading to increased consumer engagement. Decision-making is mandatory for the Malaysian advertising industry. This approach enhances the advertising industry, making it more efficient and effective.

This study mainly focuses on how Advertising Analytics 2.0 is changing Malaysia's advertising and marketing industries. It is really helpful for industry professionals to improve their advertising strategies to stay competitive. More research studies are needed to understand long-term effects because the study had a small sample size and some limitations to its methods.

Advertising Analytics 2.0 highlights a significant change to the Malaysian advertising and marketing industry. This study shows that using data is important to make decisions is becoming the norm for advertising agencies.

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