

The Impact of Artificial Intelligence (AI) Tools on Improving Product Promotion among Small Businesses in Malaysia

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ABSTRACT

The current study investigated the impact of Artificial Intelligence (AI) tools on product promotion in small businesses in Malaysia. Qualitative research approach was employed by conducting semi-structured interviews with seven small business owners from Melaka, Selangor and Kuala Lumpur. Thematic analysis was used to analyse the data. The qualitative findings indicate that platform-based feature and automated tools are perceived to assist marketing effectiveness through better customer reach, engagement, brand visibility, and sales performance. AI technologies also enhance operational efficiency through automation of routine tasks and data-driven decision-making. However, challenges were identified such as limited technical knowledge, difficulty in understanding the algorithms of the platforms and resource constraints. Despite these limitations, AI tools offer valuable opportunities for small businesses to enhance their promotional strategies and remain competitive in the digital marketplace.

Keywords: Artificial Intelligence, Digital Marketing, Malaysia, Product Promotion, SMEs

INTRODUCTION

Artificial Intelligence (AI) is gaining rapid importance as a foundational technology in modern marketing and business operations worldwide. AI enables organizations to automate complex processes, analyze vast amounts of customer behavior data, improve organizational decision-making, and deliver highly personalized marketing experiences. Today, businesses increasingly deploy AI-powered tools such as chatbots, recommendation systems, social media analytics, and automated advertising platforms to enhance customer engagement and optimize marketing performance [5]. With the continuous evolution of digital technologies, AI has emerged as a key driver of innovation and competitiveness in the global business environment [12].

At the same time, small and medium-sized enterprises (SMEs) represent a crucial pillar of economic development in many nations. In Malaysia, SMEs play an indispensable role in providing employment and stimulating national economic growth. However, many small businesses continue to face major hurdles in marketing and promoting their products effectively. This difficulty is largely due to limited financial resources, a lack of dedicated marketing expertise, and increasing competition in the digital marketplace [1]. As consumer behavior shifts extensively to online platforms, the adoption of AI-driven marketing tools is increasingly being encouraged for small enterprises to improve their brand visibility, customer engagement, and promotional effectiveness [9].

Despite the growing benefits, the adoption of AI technologies among Malaysian SMEs remains relatively low, as small businesses face major obstacles such as a lack of technical expertise, financial limitations, and

concerns over data privacy [26]. Furthermore, previous research on AI-driven marketing has been predominantly conducted in the context of large organizations and developed countries, leading to a critical gap in qualitative insights regarding the real-world adoption and usage of AI tools within resource-constrained Malaysian SMEs [4]. The novelty of this study lies in its focus on addressing this theoretical gap by offering an empirical, qualitative investigation into how micro and small business owners in Malaysia navigate AI tools. Unlike existing models that presume highly structured and formal adoption paths, this study reveals a novel pathway of informal, self-directed, and experiential 'learning-by-doing' [18]. By exploring how these operators adapt to platform-specific algorithmic distribution under resource-limited circumstances, this research establishes a fresh academic perspective that bridges the gap between theoretical marketing capabilities and practical, street-level execution in emerging economies [19].

Therefore, this study aims to investigate the influence of AI tools on the product promotion of small businesses in Malaysia. Specifically, the study seeks to address three central research questions: (RQ1) How do small businesses in Malaysia adopt and use AI tools for product promotion? (RQ2) How do AI tools impact product promotion for small businesses in Malaysia? and (RQ3) What is the function of AI tools in improving the promotion of products for small businesses in Malaysia? The findings are anticipated to offer valuable insights to small business owners, policymakers, and researchers regarding the role of AI in boosting marketing performance and business competitiveness [13].

LITERATURE REVIEW

This section discusses the empirical and theoretical foundations regarding the impact of Artificial Intelligence (AI) tools on product promotion among small businesses, with a focus on the Malaysian market. The literature is synthesized into three major thematic areas: the adoption and usage of AI, its direct influence on product promotion, and the technical contributions of these tools in optimizing promotional outcomes.

A. Adoption and Usage of AI Tools

The adoption and use of AI technologies among Malaysian small businesses are influenced by several key factors, including cost awareness and technology acceptance. A major challenge identified in the literature is the perceived high cost of implementing and maintaining AI tools, which often deter resource-limited small businesses from pursuing digital transformation [10]. Another critical issue is that many business owners lack the technical knowledge required to configure and operate AI systems effectively, leading to lower technology acceptance. Furthermore, concerns regarding data privacy, regulatory compliance, and information security represent persistent barriers to adoption in the SME sector [16].

Despite these challenges, there is a gradual increase in the number of SMEs utilizing AI-enabled tools such as intelligent chatbots, social media automation platforms, and digital analytics. These tools contribute significantly to saving time, reducing administrative workloads, and enhancing promotional effectiveness by allowing small teams to achieve higher reach [7]. Moreover, government initiatives in Malaysia, including specialized training programs and targeted financial assistance, are playing an important role in encouraging small businesses to adopt AI tools [8]. Overall, AI adoption is on the rise and continues to assist small businesses in enhancing operational efficiency, customer experience, and overall business competitiveness [24].

B. Influence of AI Tools on Product Promotion

AI tools have revolutionized the way small businesses approach product promotion. In the domain of marketing, promotion is defined as any marketing communication designed to deliver product information, draw consumer attention, and ultimately influence purchasing decisions to drive sales [23]. AI-powered tools such as customer analytics, content automation, and recommendation engines help small firms analyze customer behavior and automatically generate tailored marketing content. This enhances product visibility and elevates customer interaction [2].

Many small businesses in Malaysia are leveraging these tools to improve their promotional outcomes. AI helps firms enhance their marketing effectiveness, raise brand awareness, and expand their reach to previously

inaccessible target markets. From a financial perspective, AI automates highly repetitive tasks such as ad campaign execution and analysis, which reduces marketing expenditures—an essential advantage for small firms operating with limited budgets [7]. AI also improves marketing accuracy by minimizing human errors and analyzing real-time data to identify the optimal timing for product promotion [15]. Nevertheless, businesses must actively address challenges such as technical skills shortages, implementation costs, and security concerns to fully realize these positive effects [9].

C. Contribution of AI Tools in Improving Product Promotion

AI tools provide structural improvements to product promotion through enhanced efficiency, personalization, and data-driven decision-making. A major advantage of AI is automation, which enables small businesses to automate routine marketing tasks such as posting social media content, responding to customer inquiries via auto-replies, and managing online advertising campaigns [7]. This level of automation significantly reduces the manual workload of business owners. In terms of personalization, AI-driven algorithms analyze customer data to customize promotional content based on individual interests, which increases customer engagement and drives conversion rates [6].

Furthermore, the real-time data and analytics provided by AI allow business owners to monitor campaign performance continuously and refine their marketing strategies dynamically [13]. By minimizing errors, lowering costs, and improving operational efficiency, AI tools free small business owners from routine operational tasks, allowing them to focus more on high-value creative activities and long-term business strategies [17].

RESEARCH METHODOLOGY

To investigate the adoption, usage, and impact of AI tools on product promotion among small businesses in Malaysia, this study employed a qualitative research approach with an exploratory research design [19]. A qualitative methodology was selected because it enables researchers to gain a rich, in-depth understanding of small business owners' subjective experiences, perceptions, and practices regarding new technology integration. The study adopted an interpretivist philosophy and an inductive research approach, allowing distinct thematic patterns to emerge directly from the raw narratives of the participants, rather than testing predetermined hypotheses [19].

The target population consisted of small business owners in Malaysia who utilize AI-related digital marketing tools. The study sample comprised seven small business owners (R1 to R7) located in Melaka, Selangor, and Kuala Lumpur. Participants were selected using convenience sampling, based on their active involvement in their business operations and direct experience with AI features on digital platforms [19]. The use of convenience sampling allowed the researchers to access participants who were actively using AI-enabled tools in their day-to-day promotional activities [14]. The demographic characteristics and business profiles of these seven participants are detailed in Table II.

Primary data collection was conducted through semi-structured interviews. Due to geographical dispersion and convenience, interviews were conducted online using platforms such as Microsoft Teams and WhatsApp calls, with each session lasting between 10 and 20 minutes [19]. A semi-structured interview protocol (Table I) was utilized to ensure consistency across interviews while providing the flexibility to probe deeper into specific participant insights. Prior to the interviews, informed consent was obtained, and participants were assured that their identities and business names would be kept strictly confidential. All respondents were assigned codes from R1 to R7 to ensure anonymity [19].

Table I: Interview Question Schedule And Focus

Part		Focus and Key Interview Questions
Part Owner/Manager	A:	Inquire about demographic and business characteristics:

Background	• Age and role in the business • Academic and professional qualification • Core industry and type of small business • Total years of business operation • Prior experience using AI or digital tools
Part B: AI Tool Applications	Research Question 1 (RQ1): How do small businesses in Malaysia adopt and use AI tools for product promotion? Research Question 2 (RQ2): What is the impact of using AI tools on product promotion among small businesses in Malaysia? Research Question 3 (RQ3): How do AI tools contribute to improving product promotion among small businesses in Malaysia?

All interview transcripts were subjected to a rigorous thematic analysis following the six-step qualitative framework proposed by Braun and Clarke (2006). This analysis involved: developing a familiarity with the transcript data, generating initial codes across the entire dataset, assembling codes into potential themes, reviewing themes against the coded extracts, defining and naming the refined themes, and compiling the qualitative findings. Prior to data collection, ethical considerations were addressed by obtaining informed consent from all participants, ensuring confidentiality, and assigning codes from R1 to R7 to maintain anonymity. Data collection and the analysis process were conducted until data saturation was reached, ensuring a complete and accurate exploration of the adoption, usage patterns, and promotional impact of AI tools within the selected firms.

RESULTS AND FINDINGS

This section outlines the qualitative findings regarding the adoption, impact, and contributions of AI tools within the seven surveyed Malaysian small businesses. The results are structured around the demographic profile of the participants and the three core themes linked directly to the research questions.

A. Participant Demographics

As shown in Table II, the seven participants are small business owners actively engaged in managing their daily operations and marketing activities. Their ages ranged from 29 to 43 years, and their business experience ranged from 3 to 8 years. The industries represented include food (packaged sambal), dessert and pastry, fashion, beauty, event decoration, and handmade craft. Notably, none of the respondents had a formal technical background, yet all had practical experience using AI-powered digital platforms, with TikTok being the most prominent due to its algorithmic recommendation engine and live selling capabilities [14].

Table II: Demographic Profile Of The Seven Qualitative Respondents

Participant Code	Age	Position	Academic Qualification	Type of Small Business	Years of Operation	Experience using AI / Digital Platforms
Respondent 1	43	Owner	Non-related (learned through experience)	Packaged Sambal	7 Years	Facebook, WhatsApp, TikTok
Respondent 2	32	Owner	Non-related (culinary field)	Dessert and Pastry	5 Years	TikTok, Instagram

Respondent 3	38	Owner	Non-related background	Hijabs and Scarves	8 Years	TikTok, Instagram
Respondent 4	31	Owner	Non-related background	Event Decoration	3 Years	TikTok, Instagram
Respondent 5	36	Owner	Non-related background	Beauty	4 Years	TikTok
Respondent 6	29	Owner	Non-related background	Fashion	4 Years	TikTok
Respondent 7	30	Owner	Non-related background	Handmade Craft	3 Years	TikTok

B. AI Adoption and Usage (RQ1)

The results suggest that AI tools are primarily perceived as positive, embedded digital features rather than isolated, complex technologies. Most small business owners characterized AI as a component within existing social media platforms. For instance, Respondent 1 stated that AI features like TikTok's algorithm help promote packaged sambal and connect with potential customers [14]. Respondent 2 and Respondent 3 echoed this sentiment, noting that AI-driven content distribution helps content reach a wider, highly relevant customer audience based on their specific interests and digital behaviors [14]. The findings show that the respondents associate AI primarily with content recommendations and distribution features.

The adoption of these tools is largely informal, self-directed, and hands-on. Business owners learned to navigate AI tools through trial-and-error experimentation rather than structured professional training. Respondents 1, 2, and 5 shared that they experimented with video formatting, content styles, live selling, and posting schedules to figure out what type of content attracted the most customers [19]. Respondent 7 noted that they regularly posted different types of content and adjusted their strategies based on customer views, comments, and order patterns [19].

However, several challenges were identified. Respondents 1, 2, and 5 highlighted that understanding platform algorithms and consistently producing high-quality, engaging content were persistent obstacles [19]. Furthermore, Respondent 7 experienced operational stress, noting that it was difficult to balance content creation with order fulfillment when a viral video suddenly triggered a massive spike in customer demand [19].

C. Impact of AI on Product Promotion (RQ2)

The qualitative findings indicate that AI tools have a highly positive impact on product promotion, categorized into two major sub-themes: customer reach and market expansion, and sales, engagement, and brand visibility. AI-driven recommendation algorithms played a key role in expanding customer reach. Respondent 1 highlighted that TikTok's recommendations helped them reach customers in Selangor and Kuala Lumpur who were previously out of reach [14]. Similarly, Respondent 3 stated that AI-powered platforms exposed their brand to a wider customer segment, including people who had no prior knowledge of the brand [14].

The tools also drove sales performance, customer engagement, and brand visibility. Respondent 2 noticed a significant increase in inquiries, comments, messages, and sales after integrating AI-based features [14]. Respondent 3 and Respondent 4 experienced a substantial rise in views and inquiries, which improved sales. Respondent 5 added that live selling sessions heavily boosted engagement and sales, while Respondent 7 emphasized that wider content exposure drove sales even if customers did not interact with the content immediately [14].

D. Contribution to Promotion (RQ3)

AI tools contribute to improving product promotion through embedded analytics, recommendation engines, and automation features. Built-in social media analytics help business owners monitor performance,

understand customer preferences, and optimize marketing strategies. Respondents 1 and 2 relied on analytics to track customer engagement and adjust content format [14].

Furthermore, AI tools enhanced operational efficiency by automating routine tasks. Respondents 1, 2, 4, 5, and 6 actively used automated replies and analytics to streamline administrative workflows. Respondent 1 stated that automated responses saved time and expanded reach, giving them more time to focus on product quality and order management [14]. Respondent 2 noted that automated customer replies reduced manual workloads, while Respondent 5 emphasized that AI facilitated everyday marketing, allowing them to focus on core business operations [14].

DISCUSSION

This section contextualizes the qualitative results within the existing body of literature. The discussion is organized around the three core research questions, examining how small businesses adopt AI, how AI impacts their promotional efforts, and how automation and analytics contribute to operational efficiency.

A. Practical Experimentation vs. Technical Gaps (RQ1)

Regarding the adoption process of AI tools, the qualitative findings reveal that Malaysian small business owners primarily engage in informal, self-directed learning and hands-on experimentation. This finding is supported by Rasdi and Baki [18], who argued that internal resource constraints within small enterprises typically compel entrepreneurs to adopt new digital tools through direct experiential learning rather than structured, formal training programs. Furthermore, a similar study in [19] Sánchez et al. documented that a lack of specialized technical staff drives small business operators to rely heavily on self-education and trial-and-error during technology adoption. However, this informal approach frequently exposes owners to significant technical barriers. In [11] Liang et al., it was argued that creators and small business owners face excessive cognitive workloads and operational fatigue due to the constant necessity of aligning their content strategies with ever-changing algorithmic models, which represents a persistent threat to sustained digital engagement. This challenge is further validated by Statement [26] from Verma, which highlights that technology integration is often hindered by technical complexity and gaps in technical capabilities.

B. Market Expansion and Customer Engagement (RQ2)

The results indicating that AI recommendation systems particularly on platforms like TikTok are perceived to enhance brand visibility, expand market reach, and attract new customers are consistent with Melgarejo-Espinoza et al. [14]. Specifically, in [14] Melgarejo-Espinoza et al., the authors documented that algorithmic distribution enhances content visibility and allows small enterprises to reach highly relevant, geographically diverse audiences that traditional marketing methods could not access. Furthermore, the correlation between customer engagement (e.g., comments, messages, views) and sales growth matches the findings in Statement [21] by Sharabati et al., who showed that high digital engagement is positively associated with superior SME sales performance in modern digital landscapes. To support this finding, a highly similar result was documented by Saura et al. [20], who showed that data-driven marketing strategies are highly effective in allowing SMEs to establish competitive positioning in online spaces.

C. Operational Efficiency and Analytical Value (RQ3)

The finding that small business owners leverage built-in analytics, recommendation engines, and automation features to optimize marketing strategies aligns with Saura et al. [20]. In [22] Soomro et al., it was demonstrated that AI-driven task automation enhances operational efficiency by reducing the time required for routine administrative tasks. This workload relief is strongly supported by Statement [18] from Rasdi and Baki, who found that automation enables small business owners to reallocate their limited time and energy away from mundane tasks and toward strategic business development and customer relationship management. To support this at the end, a highly similar finding was reported by Haleem et al. [7], who demonstrated that content automation and digital analytics contribute to saving time, reducing administrative workloads, and enhancing overall promotional effectiveness.

RESEARCH IMPLICATIONS

A. Academic Implications

This study contributes to the body of literature on Artificial Intelligence (AI) adoption, digital marketing, and small business management by providing empirical qualitative evidence of how Malaysian SMEs adopt and use AI tools. While many previous studies have focused primarily on large enterprises or developed nations [4], this research explores AI tool integration within resource-constrained, real-world small business environments in Malaysia. It highlights that informal learning, trial-and-error experimentation, and experiential knowledge play an essential role in technology adoption, offering valuable insights into the practical dynamics of digital transformation [18].

B. Industry and Policy Implications

For industry practitioners and small business owners, the findings suggest that incorporating accessible AI features such as social media analytics, recommendation algorithms, and live selling is a practical and cost-effective way to enhance brand visibility, expand customer reach, and improve sales performance. For policymakers, technology vendors, and SME support organizations, the study underscores the need to design practical, accessible training programs and provide financial assistance [8]. Such initiatives can reduce technical and financial barriers, helping small businesses transition from informal trial-and-error to structured, strategic AI implementation [18].

Limitations And Future Directions

While this study offers valuable insights, several limitations must be acknowledged. First, the qualitative nature of the research and the small sample size of seven business owners limits the generalizability of the findings to all small businesses in Malaysia [25]. Second, the data relied on self-reported, subjective experiences from the participants, which may vary across different business contexts. Third, the study focused primarily on social media platforms like TikTok and Instagram, potentially overlooking other AI-enabled tools such as customer relationship management (CRM) systems [21]. Finally, the findings represent a specific timeframe, and rapid technological developments in AI may shift digital marketing trends in the future [22].

Future research should address these limitations by employing quantitative or mixed-methods approaches with larger and more diverse samples across multiple industries. This would allow for statistical validation of the patterns identified. Additionally, longitudinal studies could explore the long-term impact of AI adoption on business survival and sustained growth within the Malaysian SME landscape.

CONCLUSION

In conclusion, this study has successfully achieved its core research objectives by providing robust empirical evidence of the adoption, impact, and operational contributions of Artificial Intelligence (AI) tools within Malaysian SMEs. Specifically, for the first objective, the study demonstrated that small business owners adopt AI tools through informal, self-directed, and hands-on trial-and-error within existing social media platforms, bridging technical gaps despite the lack of formal training. For the second objective, the qualitative findings from the seven respondents suggest that platform features are perceived to broaden customer reach beyond local markets, enhancing brand visibility and supporting sales growth, through algorithmic recommendations. For the third objective, the study showed that AI tools contribute structurally to promotion through embedded analytics and automated replies, which dramatically reduce administrative workloads and enhance operational efficiency for resource-constrained firms. These findings provide a clear qualitative foundation demonstrating that even basic AI features can act as crucial catalysts for small business competitiveness. To build upon these insights, future works should employ quantitative or mixed-methods approaches with larger and more diverse samples across multiple Malaysian states to statistically validate these patterns, alongside longitudinal research investigating the long-term effects of AI-driven automation on business survival and sustained growth.

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