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The Role of Training in the Adoption of AI in Digital Marketing: Aligning Business Strategy for Sustainable Performance

Naresh Saini
School of Business Management,
IFTM University, Moradabad, Uttar Pradesh, India.
E-mail: nareshsaini69@rediffmail.com

Ashish Kumar Saxena
School of Business Management,
IFTM University, Moradabad, Uttar Pradesh, India.
E-mail: ashish.saxena@iftmuniversity.ac.in

Vivek Agrawal
Institute of Business Management,
GLA University, Mathura, Uttar Pradesh, India.
Corresponding author: vivek.agrawal@gla.ac.in, vivekicfaira@gmail.com

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Abstract
The use of Artificial Intelligence (AI) in digital marketing is presenting a unique opportunity to achieve personalization and efficiency in the business strategy more than ever before, but organizational and human obstacles are frequently preventing its implementation. This paper will examine the last 15 years to explore the role of training in the use of AI technologies in digital marketing and advertising. Based on the qualitative approach, this paper summarizes the evidence provided by peer-reviewed articles (such as empirical and systematic reviews) and primary data (e.g., expert interviews) in North India and determines the main themes. The results emphasize that digital marketing people do not possess AI skills and confidence often, so the formal training is a vital facilitator of adoption and continued performance. Research consistently demonstrates that special training and educational workshops raise the perception of ease of use and utility of AI tools, which will measure faster acceptance. On the other hand, those organizations which do not focus on training experience resistance and skill gaps (a skills paradox) to slow down AI adoption. The present study recaps the existing theoretical frameworks (e.g., TAM and TOE) within the framework of AI marketing, pointing to the lack of training as one of the relevant perceived barriers. Practical recommendations are provided on the basis of thematic analysis to both managers (e.g., invest in customised AI training, enable an AI-literate culture) and research in the future (e.g., quantitatively measure training impacts). This paper highlights that training and learning can be regarded as the key drivers in closing the gap between AI potential and the actual application in the sphere of digital advertising, which will eventually lead to sustainable business performance. The significance of the research under consideration is the fact that it offers an evidence of the importance of training as a mediating variable between the Technology Acceptance Model and the Technology-Organization-Environment model as the means of explaining the adoption of AI in the digital marketing in the circumstances of an emerging economy.

Keywords- Artificial intelligence, Business strategy, Training, Digital marketing, Advertising, Technology acceptance model, Sustainable performance.

1. Introduction

Digital marketing is undergoing a revolution with the use of Artificial Intelligence (AI) that enables more advanced advertisement, personalization, and decision-making and can now become an important part of the business strategy (Babashahi et al., 2024; Paschen et al., 2019; Verma et al., 2021). The use of AI in marketing (programmatic ad purchasing, AI-generated content, etc.) has the potential to optimize customer targeting and campaign performance and add to sustainable performance. It identifies the sustainable

performance as the capability of the firm to achieve long-term marketing and business targets like the persistence of profitability, market growth, and customer satisfaction in a way that can be repeated over a period of time. At that, sustainable performance is associated with the ability to maintain the favorable results of the AI-based marketing approaches without running out of available resources or undermining the future sustainability.

According to the recent reviews, there is an explosive increase in the use of AI in the marketing field, with chatbots, predictive analytics, and recommendation engines entering the mainstream (Enshassi et al., 2025; Zhou et al., 2022). Nevertheless, it has its potential, and most organizations cannot make AI effective as a part of a business strategy. Specifically, the human aspect of AI adoption such as skills, attitudes, and training of the workers becomes one of the bottlenecks (Dubey and Gunasekaran, 2015).

Practically, a "digital skills gap" usually arises among marketers when new AI technologies are conceived, which does not support sustainable performance. Survey of the industry employees has revealed that they are eager to utilize AI but often lack the adequate training and support to feel confident to use the tools (Clark, 2020; Verma et al., 2021). As an illustration, an international report conducted recently revealed that almost 50 percent of knowledge workers desire additional formal training on AI to improve adoption, although many get little (Machuel, 2024). This is a paradox: companies invest in high-tech AI platforms as their business strategy and do not provide their marketing staff with the knowledge and skills to apply them (Jain and Kumar, 2024; Verma et al., 2021). Even well-designed AI solutions can be either underutilized or poorly applied in the absence of training, which negatively affects their intended outcomes and long-term functioning.

The challenges are linked to established theories of technology adoption, which are academic in nature. The Technology Acceptance Model (TAM) is just one example of the models that presuppose the influence of perceived usefulness (PU) and perceived ease of use (PEOU) on technology use (Abdullah et al., 2016; Ibrahim et al., 2025). It has been demonstrated that training has a direct effect on such perceptions: successful training brings more confidence and knowledge to users, which elevates PEOU, consequently elevating adoption. Equally, other models like the Technology-Organization-Environment (TOE) model integrate organizational readiness and skills as determinants of adoption (May et al., 2025). Empirical research in the field of digital marketing has started to use these models, and in most cases, the shortage of personnel knowledge has been shown to be one of the main obstacles to the adoption of effective business strategies (Boom-Cárcamo et al., 2024; Ghotbifar et al., 2017). Therefore, the discussion above attempts to provide the answer to the following question:

RQ1: What are the strategic trainings that marketing organizations need in the effort to adopt AI effectively in digital marketing?
RQ2: What is the impact of training on the outcome of the AI adoption (perceived ease of use, perceived usefulness, user confidence and long-term marketing performance)?
RQ3: How can AI skills gap in digital marketing be dealt with using business strategies?

This paper integrates the current empirical and theoretical findings in order to determine (1) what training requirements exist in marketing organizations using AI as the business model, (2) how training influences the adoption process and long-term performance, and (3) the strategies that can be applied to address the skills shortage.

Digital marketing advertisement is the subject matter: although the adoption of AI has been examined in general terms, its application to marketing processes entails new concerns (e.g., creativity in the workplace

and data management of customers), which have an impact on business strategy and a long-term performance level (Enshassi et al., 2025; Weilbach, 2025; Zhou et al., 2022). This study will offer a wholesome picture to both the academics and practitioners by taking a review of literature published in 2009 and beyond (15 years), as well as incorporating qualitative information.

The current study is innovative because it combines 15-year retrospective of the peer-reviewed literature with original qualitative research with the marketing managers in North India, which is an emerging economy where AI utilization is a human-capital issue with a uniqueness. Though various literature has talked about AI adoption in general or in the developed economies, not many have talked about marketing specific AI training needs in the developing countries. Integrating the Technology Acceptance Model (TAM) and Technology–Organization-Environment (TOE) concepts with the evidence of the field, the given study offers new information about how the skills paradox and the gap between AI potential and the real-world application of this practice can be addressed using the specific training methods, resulting in the improved business strategy and sustainable performance in the long term. The TAM hypothesizes that ease of use and usefulness beliefs influence the adoption of the user (Abdullah et al., 2016). Hence, this paper examines the impact of training on these perceptions about AI marketing tools. According to the TOE model, staff skills and training are considered as the determinants of the adoption of new technology through the organizational readiness (May et al., 2025).

2. Literature Review

This paper examines the literature on the adoption of AI in marketing, focusing on the aspects of training and human skills, as it affects the business strategy and sustainable performance (Abrokwah-Larbi & Awuku-Larbi, 2024, Enshassi et al., 2025; Jain and Kumar, 2024; Weilbach, 2025; Zhou et al., 2022). It starts with the definition of the role of AI in digital marketing and proceeds to discuss models of technology acceptance in the application to AI, and concludes with research on training and skills in AI adoption.

2.1 AI Uses in Online Marketing

The impact of AI on marketing has increased at a very high rate. Verma et al. (2021) claim that customer analytics, social media automation, and targeted personalization are among the marketing capabilities that are supported by AI. AIs can process large volumes of data to optimize the delivery of ads and choose the content in real time. Similarly, programmatic advertising involves the application of AI to automatically purchase and put the ads in order to attract the correct audience. Marketing managers are also considering using AI in activities such as the bidding of key words as well as creation of automated content to improve their business processes. Jain and Kumar (2024), conducted a review of the 20 years of AI in marketing and, they reported that data mining, IoT and generative AI have revolutionized the approach to campaigns.

Overall, it is evident that the opportunities of AI to revolutionize advertising and make it sustainable has been well-documented (Abrokwah-Larbi and Awuku-Larbi, 2024; Babashahi et al., 2024; Zhou et al., 2022). Nevertheless, it is also stated in the literature that introducing AI in marketing will not be a trivial process (Jain and Kumar, 2024; Zhou et al., 2022). According to a study of Malaysian SMEs, as Enshassi et al. (2025) explain, despite its effort to provide a substantial advantage to the companies (e.g. efficiency, personalization), adoption is “not always smooth” when the companies are resource limited. The issues encountered are usually data silo, integration problems, ethical issues. Notably, a common theme that numerous reviews point to is that the adoption of AI is more of a people problem than a technological problem (Agarwal et al., 2024; FakhrHosseini et al., 2024; Weilbach, 2025). Business organizations need to train their employees, redesign their operations and create new positions to support their strategic business plans. In marketing, this implies educating creative and technical employees to work with AI devices (Dubey and Gunasekaran, 2015).

2.2 Technology Adoption Theoretical Models

In order to comprehend the concept of adoption and its effects on sustainable performance, some past studies have frequently referred to the models like TAM Technology Acceptance Model (TAM) and Technology Organization Environment (TOE) (Abdullah et al., 2016; Ibrahim et al., 2025; May et al., 2025). As postulated by TAM, the perceived usefulness (PU) and ease of use (PEOU) are antecedents that lead to individual adoption. Perceived usefulness is high in AI situations, whereas PEOU may be low in cases of a complex system. Those perceptions are impacted by training as Ibrahim et al. (2025) showed in their study based on TAM: specific training that emphasises practical use cases can bring PEOU and PU to AI tool use up. Regarding this matter, their analysis indicates that practitioners who have switched to using them since the experimental stage find pre-training emphasizing that the system is user-friendly beneficial. This is valid to prove that in the TAM framework, ease of use is indeed elevated well by training and hence adoption intention, which eventually may lead to better business strategy and sustainable performance.

Technology acceptance Model (TAM) presents individual level technology adoption as a factor that depends on perceived usefulness (PU) and perceived ease of use (PEOU) (Venkatesh and Morris, 2000), yet it does not provide much information on the organizational and environmental conditions under which technology adoption occurs. In comparison, Technology- Organization- Environment (TOE) examines organizational preparedness, both skills and supports, to be necessary in effective technology adoption and long-term performance (May et al., 2025). Training is a construct that mediates between TAM and TOE in the context of the AI adoption in the digital marketing.

Through a TAM perspective, training serves as an extrinsic factor which increases the knowledge and confidence of the users, which directly affect PEOU and indirectly affect PU by demonstrating the usefulness of AI tools (Venkatesh and Morris, 2000). In terms of TOE, training is an internal organizational capability, which implies preparation and willingness of organizations to adopt AI. It has been found in the extant literature that the combination of technological readiness and organizational variables, that is, the training of the staff, affects the utilization of AI-driven digital marketing platforms (May et al., 2025; Verma et al., 2021). Moreover, employers investing in the training of their staff and technological skills have a higher chance of successfully implementing AI (Ayinaddis, 2025).

According to the discussion, this research hypothesizes training as an antecedent to strengthening TAM PU-PEOU model and TOE organizational readiness factor concurrently.

2.3 Obstacles to AI Adoption: Skills and Training Gap

In addition to models, the empirical literature can name typical obstacles to the use of AI in marketing and many of them refer to skills (Boom-Cárcamo et al., 2024; Ghotbifar et al., 2017). Small and fast-rising companies have a skills paradox due to high turnover, education, and training, and communication issues, which hinder AI implementation as the business strategy component (Babashahi et al., 2024). Specifically, researchers have cited networking challenges, training deficiencies, and infrastructure challenges as the factors that influence the use of AI in the workplace (Agarwal et al., 2024; Clark, 2020). That is, despite the existence of technical infrastructure, the lack of trained personnel may be the nullifying factor of the AI value of AI. Similarly, Enshassi et al. (2025) highlighted that the perceived barriers are powerful detractors of the intention to use AI in digital marketing. A major negative correlation was found between adoption intention and perceived barriers in their Malaysian SME survey. Such barriers are complex, and one of the most significant is often seen to be a shortage of skills and training (Boom-Cárcamo et al., 2024; Ghotbifar et al., 2017). Practitioner reports also support this evidence. Although industry research is not the scholarly literature, the findings of the literature review are supported by one report: according to it, more than 60 percent of marketers cited the absence of training or knowledge as a major barrier to effective use of AI to

drive sustainable performance. (As an illustration, the marketing news outlets have noted that 67% of the marketer's report that insufficiency of training is a major obstacle to AI implementation in their companies) These data are professional surveys, but reflect the sentiments of academics (Hoffman, 2024). **Table 1** investigates the major research on the topic of AI in marketing and summarizes the findings of the research concerning training or skills.

Table 1. Selected studies on AI adoption in marketing, with emphasis on training and skills.

Author (Year)	Context / Focus	Method	Key Findings on Training/Skills
Verma et al. (2021)	AI in Marketing	Systematic review	AI in marketing growing; highlights need for skilled practitioners to leverage AI.
Babashahi et al. (2024)	AI in Workplace / Skill Transformation	Systematic literature review	Skills paradox – SMEs lack training/education; recommends skill development.
Enshassi et al. (2025)	AI adoption in Digital Marketing (SMEs, Malaysia)	Survey (PLS-SEM)	Finds perceived barriers (including lack of skills) hinder adoption; suggests targeted training to accelerate adoption.
Ibrahim et al. (2025)	AI adoption typology (users)	Survey + cluster analysis	Shows different adopter segments benefit from training in efficient AI usage (early majority needs ease-of-use training).
Weilbach (2025)	AI adoption for SMMEs in resource-poor regions	Qualitative (interviews)	Highlights limited digital literacy; recommends training programs for managers and workers.
May et al. (2025)	Digital Marketing + AI (SMEs, Nigeria)	TOE framework survey	Reports SMEs gain market share with AI-driven marketing when they build organizational competencies (implying staff training).

Source: *Authors*
*The search of studies in **Table 1** involved the predetermined inclusion criteria that included the focus on the adoption of AI in the marketing environment with a direct mention of training or skill-related aspects.*

2.4 Training and its role in Business Strategy Adoption

Training has become a hindrance in the absence and a facilitator in the presence in the adoption of AI as a business strategy. Some of the authors support the use of training interventions (Cangialosi et al., 2024; Kennett, 2013; Meyer et al., 2007). Enshassi et al. (2025) found that to increase the adoption of AI, it is necessary to have a "specific training, easy-to-use AI interfaces", and visualizing tangible benefits of the business. According to Ayinaddis (2025), training programs are necessary to enhance the skills of employees and managers to use AI effectively. These researches correlate with diffusion of innovation theory: when the user gets educated and supported, the innovation spreads. Rather, in case organizations under invest in training, resistance ensues. Training deficiency can be coupled with additional obstacles such as workforce turnover, which renders AI tools "useless" (Babashahi et al., 2024). According to Womick (2024), the adoption of AI tools is "time-consuming, and it involves resource investment, such as support and training". Employees will not be able to support AI systems, and this will slow down performance. Training in marketing involves formal AI analytics, peer-to-peer, and AI "champions" on teams.

Multi-faceted training, combining tutorials with value demonstrations, proves most effective (Cangialosi et al., 2024; Kennett, 2013). Ibrahim et al. (2025) advise tailoring training to users: early adopters need advanced training, while late-majority users benefit from basic instruction. Training helps users bridge the gap between unfamiliar technology and confident use, increasing competence and enthusiasm (Agarwal et al., 2024; FakhrHosseini et al., 2024).

2.5 Training and Change Management in Marketing for Sustainable Performance

The use of AI in the marketing sector needs organizational change management to ensure sustainable performance. Research indicates that training should become a part of business strategy and not an ad hoc (Cangialosi et al., 2024; Kennett, 2013). Open Innovation models indicate the creation of cultures of constant learning to be accepted (Clark, 2020; Womick, 2024). According to the McKinsey 2025 workplace

report, companies ought to ensure that training is made available to harness the power of AI (McKinsey AI Report, 2025) Research proves that change management is the key to the implementation of AI and sustainable performance (Kennett, 2013; Meyer et al., 2007). Training enables partnership between the marketers and AI developers in order to have effective business strategies. The implementation of AI needs cross-functional teams where the skills of marketers can improve the performance based on the feedback provided on the AI systems. Training then consists of participatory involvement in the implementation (Al-Asfour and Zhao, 2024; Srigouri and Muduli, 2024). The available literature demonstrates that training can make marketing teams turn into knowledgeable users of artificial intelligence, creating successful strategies (Abrokwah-Larbi and Awuku-Larbi, 2024; Paschen et al., 2019). Firms that do not train have challenges with sustainable performance and those that invest in skill development are more advantageous to use AI in marketing. Our methodology and results on the same are described in the following sections.

3. Research Methodology

We have followed a systematic analysis or systematic review and thematic analysis of qualitative studies to gain a systematic understanding of the role of training in business strategy development. The research was carried out in two phases, including the organized literature review (as the part of qualitative content analysis) and a qualitative primary research (interview with marketing professionals).

3.1 Literature Search

In order to make the literature selection process transparent and rigorous, a structured search strategy was adopted in this study. It was searched in three notable academic databases (Scopus, Web of Science, and ScienceDirect) to determine the relevant literature in the years 2009–2025 and first found 42 articles. Following the exclusion and inclusion process 18 research articles were eventually taken into consideration. Peer-reviewed articles, systematic reviews, and conference proceedings published in English that devoted their attention to the implementation of artificial intelligence in digital marketing or advertising were searched. Only the sources that explicitly focused on the topic of training, skills, readiness, or human capital aspects in regards to AI adoption were included in the literature. Technical articles that were not accompanied by a discussion on the human and managerial elements like algorithmic or system design articles were excluded in the search. This meant that the selected corpus of literature was pertinent to the research and met the requirement of this study of training as a factor of AI adoption and sustainable marketing performance. (see **Table 1**).

3.2 Data Extraction and Analysis

Two authors coded the selected paper independently, and the content of the paper was coded using the themes of training, skills of employees, and factors of adoption. Key thematic areas were identified such as training programs, skills obstacles, perceptions and organizational support to sustainable performance. Coding discrepancies were resolved by discussing and arriving at a common ground.

The method of analysis used by the authors was inductive thematic analysis. Open coding was done on all interview transcripts by two researchers. The coders then deliberated on the emergent coding until the agreement was reached thus making the coders inter-coder consistent. Axial coding was then carried out to cluster similar codes into upper themes, and selective coding to extract themes. This systematic basis of findings was based on this manual coding. Braun and Clarke (2006) developed themes by first grouping similar codes into higher-order concepts. In terms of quantification, quantitative depth was selected, but not counting the frequencies, because the purpose was to comprehend the richness of the perceptions.

3.3 Interview Method

In order to supplement the literature analysis and to obtain information about the business strategy implementation, we semi-structured interviewed marketing managers and advertisers of various industries (n = 15) in North India. The sample was selected and purposely to include firms of various sizes that had hired AI tools in marketing recently. The interview was carried out based on the literature themes and inquired about the training undergone, perceived difficulties, experience of adoption of sustainable performance. The duration of the interviews was 45 to 60 minutes. Purposive sampling was used to select the interviewees to represent different marketing roles, industries and sizes of the firms that had deployed AI tools. The authors ceased to interview once thematic saturation was achieved; that is, after the 13 th interview, no additional themes came up. Two additional interviews were provided in order to ensure that the identified themes were consistent and stable. These interviews did not produce new information so thematic saturation was deemed to have been reached. Thus, the obtained final sample of 15 interviews was a representative of the overall picture of the training-related issues in the context of AI adoption within these organizations. The interviews were tape recorded and transcribed word-to-word. We then did a thematic analysis of the data collected during the interviews. This was through open coding, axial coding (making use of codes) into themes and selective coding (to express the fundamental themes). In order to achieve credibility, we cross-referenced the results of the interview with the results of the literature and member-checked (the participants reviewed a summary of the results) (Agarwal and Lenka, 2016; Agarwal et al., 2020).

To achieve rigor, we employed a number of methods. We initially compared the outcomes of the literature review with the results of the interview. This kind of triangulation helps to strengthen credibility by showing that same themes can be found when different sources are consulted. Second, we employed member checking whereby draft summaries of our results were provided to interviewees and all the respondents ensured that the summaries were accurate representations of their opinion. The author also made elaborated analytical notes to record the coding decisions. The following steps member validation, triangulation, and reflexive documentation increase the reliability and validity of our qualitative results (Agarwal and Lenka, 2016).

Table 2. Respondents information.

S. No.	Respondent	Position	Company	Location
1.	A	Marketing Manager	IT Sector	Delhi
2.	B	Brand Manager	Service Industry	Lucknow
3.	C	Marketing Manager	Service Industry	Agra
4.	D	Content Marketing Manager	IT Sector	Delhi
5.	E	Marketing Manager	IT Sector	Lucknow
6.	F	Digital Marketing Manager	Manufacturing Sector	Haridwar
7.	G	Digital Marketing Manager	Service Industry	Jodhpur
8.	H	Social Media Manager	Retail sector	Jaipur
9.	I	Social Media Manager	E-Commerce sector	Jodhpur
10.	J	Brand Manager	IT Sector	Jaipur
11.	K	Social Media Advertiser	E-Commerce sector	Delhi
12.	L	Brand Manager	Retail sector	Agra
13.	M	Marketing Manager	Fast Moving consumer goods	Delhi
14.	N	Marketing Manager	Fast Moving consumer goods	Delhi
15.	O	Brand Manager	E-Commerce sector	Lucknow

Source: Authors own created

Note: Participants were recruited from diverse industries in North India as described above

3.4 Ethical Considerations

This qualitative methodology was employed to investigate the perception of marketing professionals about AI training as a problem that is complex and depends on the context that may be hard to describe in only the form of quantitative measurements. A survey would have only measured the perception of the people involved but we applied interviews to unlock some subtle issues and strategies. We are aware that qualitative findings are not generalized statistically but they are rather rich in insights. An example of a future study is to employ quantitative methods on insights, e.g., how specific training programs would impact AI adoption and marketing results through survey instruments.

Participation was done on a voluntary basis and there was assurance of confidentiality. The method is qualitative and offers detailed information but is not statistically generalizable (Agarwal and Lenka, 2016; Agarwal et al., 2020). The industry access was a limitation in the interview sample and the literature selection might have lacked unpublished work. However, the fact that both literature and field data was used increases validity of results. By using this qualitative approach, we will seek to gain a deep insight into how training is a part of business strategy, but not about the frequency of it, but about the meanings and settings of training. The following section presents the most important analytical results. To make the research credible, the author conducted member checking (the author sent the theme summary to the respondents to be authenticated) and researcher triangulation (two coders, peer debriefing). Code memos and a detailed field notes were kept to give an audit trail.

4. Findings and Analysis

These were guided by key themes which came out of the literature including training needs, barriers and outcomes. This method of literature synthesis and interviews will help in improving validity by triangulating published results with the experience of practitioners. Among the most notable themes that appeared in the analyses were training and the adoption of AI in digital marketing. Below is a description of the different themes that were gained through the literature and interviews.

4.1 Training Needs and Skills Gap

One of the most extensive themes was the shortage of AI knowledge of the marketing personnel. This has been pointed out in previous studies (see **Table 1**). As an example, a so-called "skills paradox" was outlined, in which the high turnover of staff and the lack of training lead to skills shortages (Babashahi et al., 2024). The skills paradox is the situation when companies invest in advanced AI and do not have qualified specialists to operate it. Otherwise, the lack of human skills such as the lack of training or high turnover even when it comes to technologies invested into the latter weakens the results of this adoption. Equally, our interviewees indicated that majority of the marketers were not ready to use AI tools. As one of the marketing managers remarks: "We have an excellent creative strategy team, but ad tools such as machine learning are totally new to us. It is true we should have structured/planned training before we can rely on these tools".

Such skills gap suggests that the training will have certain requirements (Kennett, 2013; Meyer et al., 2007). Respondents said that they had technical skills (e.g., data analytics and AI platform operation) and strategic skills (e.g., knowledge of the role of AI in marketing metrics and sustainable performance). Some of them also highlighted that generic training is not enough, employees require contextual training in AI applications that apply to marketing. It is not sufficient to learn Python as one of the respondents explained. We should also be taught how AI is incorporated into customer segmentation and engagement, how to read AI-driven recommendations, that type of marketing-relevant angle. It was also discovered in the literature that the emerging market firms do not have marketing staff with AI or analytics experience, which requires specific education programs (Abrokwah-Larbi and Awuku-Larbi, 2024; Verma et al., 2021; Zhou et al., 2022).

4.2 Attitudes, Confidence in Role of Training

This theme is associated with user attitudes. Most respondents not only showed eagerness about AI application but also worried about AI application. Training was one of the factors that might change this balance. In cases where training was offered, there were increased user confidence and better business strategy. As an example, a post-in-house workshop on AI-driven analytics, one of the social media managers commented, "Suddenly, the platform does not seem that mysterious. We understand why it is giving us such recommendations and we are ready to give it a go now". On the other hand, little-training environments reported participants being afraid of mistakes and therefore chose to stick to the old methods of doing things, which would be a barrier to sustainable performance.

These arguments conform to the business strategy and technology acceptance theory. The interviewees suggested that training made AI tools more acceptable and useful to them in sustainable performance. Within the context of TAM, the positive training unloads the cognitive burden of studies of the new tools (increasing PEOU) and proves to be beneficial (increasing PU), thereby enhancing the intention to use it (Abdullah et al., 2016; Ibrahim et al., 2025). The comment of one marketing analyst: "After we had demos to play with and could pose questions, the AI tools suddenly appeared to be much more useful instead of being a confusing black box". This theme resonates with the findings by Ibrahim et al. (2025) that the training process is to be "practical, productivity-oriented, and easy to use" to promote the adoption. It is also in line with the conclusion drawn by Enshassi et al. (2025) that they can prove to be tangible through training and, in that way, speed up the process of adopting AI by organizations. The results prove that in the presence of formal AI training programs, marketing teams are more open and ready to experiment with new AI functions as the business strategy.

4.3 Modes of Training and Learning

The articles found the differences in the training delivery (Al-Asfour and Zhao, 2024; Kennett, 2013; Meyer et al., 2007; Srigouri and Muduli, 2024). Other companies depended on formal workshops or online courses, but some of them relied on peer learning or vendor-led courses. On-the-job training was promoted by many interviewees: they suggested acquiring AI tools through completing actual assignments with the help of tutors. It is the comment of one marketing manager who said, we have hired a consultant who has trained half of our team on a hands on project. So successful was that, that we are now carrying that to the rest. The need to match training content with the current workflows and business strategies has also been emphasized by other participants (Cangialosi et al., 2024). Indicatively, one manager claimed that, instead of generic AI theory, the individual should learn how to think about what the analytics of our AI platform entail in relation to our marketing KPIs. This suggests that training should be contextual rather than abstract to achieve sustainable performance (Biswal and Sahoo, 2023).

4.4 Support and Culture in the Organization

The premise of this theme goes into the way training is incorporated in the organizational strategy towards sustainable performance. It was pointed out by many that training by itself is not sufficient, it should be within an encouraging environment. The leading figures of successful AI adopters usually have leaders who make AI literacy their business approach. One manager took note of the fact that our CMO wanted us to attend an AI boot camp. That was a message that this is significant. Conversely, adoption was slow in the cases where AI programs were initiated by the IT department without management support. It is a theme that correlates with the results that organizational barriers (such as leadership and resource allocation) are relevant predictors of the adoption of AI. Only when it was combined with open communication and incentives, training was effective. In example, one company provided a reward to accomplish AI training and incorporate AI into a campaign an incentive that boosted attendance significantly and led to sustainable performance (Weilbach, 2025).

4.5 Training Implementation Constraints and Barriers

Organizations can state limited budgets and time even when they realize that they need training to improve their business strategy. This was particularly noticed in the top management, who claimed that they already had 10 hats on them and could do without the training to get new skills (Fatien and Otter, 2015; Meyer et al., 2007). Several interviewees also indicated that a high rate of staff turnover required that training should be repeated over and over again and this would water down its effectiveness in ensuring sustainable performance. These applied obstacles coincide with the literature focus on resource limitations of organizations (Boom-Cárcamo et al., 2024; Enshassi et al., 2025).

Also, the interviewees observed that the concept of trust and change management influenced training outcomes. Indicatively, there were older workers who did not believe in the value of AI and did not change their mind even after being trained. One of the respondents mentioned that there was a workshop that we conducted, but not all of them took it seriously and participated in the workshop. Attitude is important, but not only competencies. It can be implied that the development of trust and overcoming fears (e.g., fear of job loss) must be supported by change management during a training process.

The analysis and findings point to the absence of training as one of the main obstacles, and well-thought training as one of the essential drivers of AI implementing in digital marketing as part of the sustainable performance. Training enhances user competence and confidence though it has to be backed by organizational commitment. These themes that emerged align with the literature (e.g., skills gaps and the necessity of specific training) and give a more saturated picture through the practice (Al-Asfour and Zhao, 2024; Srigouri and Muduli, 2024).

5. Discussion

The results support and expand the literature on the adoption of AI as they shed light on the role of training as an inhibitor and facilitator of business strategy in marketing settings (Cangialosi et al., 2024; May et al., 2025; Srigouri and Muduli, 2024). In line with the previous literature, a skills gap in the workforce was determined to be one of the key challenges (Al-Asfour and Zhao, 2024; Ghotbifar et al., 2017). Babashahi et al., 2024 termed this skills paradox, and also examined based on the expert view that marketers in most cases do not have the analytical and technical skills to operate AI tools. This is in line with Weilbach (2025) who noted the lack of digital-literacy in limited settings.

Significantly, the present research points to the fact that the training can be considered an effective solution in case of the proper implementation as the component of the overall strategy. Ayinaddis (2025) who emphasized on the need to invest in training programmes discovered that training increased confidence and the actual use of AI as a way of achieving sustainable performance. In particular, the training focused on practical experience helped to feel accessible complex AI tools (increasing PEOU) and showcasing campaign outcomes helped to feel the value of AI (increasing PU). This is an example of TAM at work: training has a direct impact on the perceptions that constitute the intention to adopt (Abdullah et al., 2016; Ibrahim et al., 2025).

One insight of the qualitative data is that there is a wider range of training requirements in the adopter types. Although Ibrahim et al. (2025) hypothesized that early adopters require the need to develop skills and early majority require the focus on ease-of-use, the interviews provided a tangible manifestation of this in the marketing functions. To eliminate fear among creative teams, AI-driven content tools might need to be trained, but analytics teams might have to undergo further technical training. This implication is that the training programs cannot be made uniform but must be adjusted to functionalities. This resonates with AI research frontiers, advising the use of marketed training approaches to various groups of users. Another key

finding is that organizational factors are important in facilitating effective training. Enshassi et al. (2025) discovered that organizational barriers have a considerable influence on AI uptake. It was noted that in the absence of the support of the leadership and a culture that is receptive to change, the training activities fizzle away. It means that it is possible to introduce a twist into the TOE model in digital marketing the training and culture sub-level within the organizational dimension plays a vital role in ensuring sustainable performance (Cangialosi et al., 2024; May et al., 2025). Those companies who made AI-learning culture (incentives, pilot projects, etc.) have improved training results. This highlights the necessity of cross-functional cooperation (marketing, HR, IT) to develop the effective training and change management, which the literature had not identified. In practice, this research means, that it is not enough to purchase AI tools. Organized learning should be included in the business strategies of marketers (Paschen et al., 2019). As an illustration, organizations might introduce AI bootcamps, or could engage vendors to conduct practical workshops. Other interviewees noted that there were internal AI ambassadors (employees who had been strongly trained and then coached their colleagues) who had been successful. These methods are the reflection of the Enshassi et al. (2025) idea to provide easy-to-use training and demonstrate the advantages. Moreover, AI modules must also be included in digital marketing courses (in universities or corporate training) to train future professionals. In terms of research, our results aid in the formation of theoretical models and approaches that clearly incorporate training as an antecedent. The classic TAM and TOE models are relatively sensitive to perceived competence or user preparedness yet seldom measure the impact of training on the adoption of marketing technologies. Future research may take into consideration the TAM/UTAUT models and implement an additional training/support construct. The current models that include some kind of facilitating conditions or self-efficacy can be modified to accommodate the training details. Lastly, training is also empowering but it increases the expectation of those that are being trained.

Other marketers complained that AI systems never delivered on the hype despite the training. It means that constant training and human-AI team development are necessary, as opposed to initial onboarding. That is to say that organizations must regard the implementation of AI as an ever-evolving learning process in line with agile marketing ideologies. This is a less discussed dimension in literature but this dimension came out clearly in our interviews. As has been brought out in this discussion, training is not a luxury but it is the key to the success of AI in marketing and sustainable performance. Connecting our thematic results with the literature allowed us to build a consistent narrative: the acceptance of AI is fuelled by the feeling of usefulness and influenced by human capabilities. As long as it bridges the gap, the adoption will increase faster, whereas on the other hand, without it, the adoption will not increase. A strategic business in this regard is to understand that training is very essential in the realization of sustainable performance in the use of AI technologies.

Although it is qualitative in nature, the results are used to build testable propositions on the technology adoption theory. In line with Technology Acceptance Model, the following propositions may be put forward:
P1: The perceived ease of use of AI tools and perceived usefulness of AI tools are positively correlated with the intensity of higher training and ultimately contribute to the adoption of AI in digital marketing.
P2: Specific training, especially training that goes in line with marketing-related AI work, has a positive relationship with the prevalence of AI use through the reduction of perceived complexity.
P3: Training support through organizational commitment, in terms of leadership, and proper resource allocation, is positively linked with sustainable marketing performance. Such propositions form a basis of future quantitative validation.

6. Conclusion

This study was meant to answer the question of the impact of training on the uptake of AI in digital marketing advertising. The findings reveal that training is a potent aspect in the creation of a successful business plan by (i) improving the perceived ease of use, and perceived usefulness of AI instruments (ii) improving the confidence in users, and (iii) enhancing the integration of AI in the marketing processes. Another learning in the study is that training must become part of the company culture and must be designed to address different marketing jobs to demonstrate their effectiveness in supporting sustainable performance.

The literature review and qualitative analysis indicate that training is a key requirement of AI implementation in digital marketing. Based on 15 years of literature and fresh field data, this research has come up with the following conclusion:

- Relevant training (focused on user requirements) goes a long way in ensuring the marketing teams utilize AI tools in an effective manner. It facilitates more ease of use and less resistance (training as an enabler).
- On the other hand, staff members tend to lack the training and digital skills, and this situation may serve as the main obstacle. Training shortages were identified by many companies as the key factor in slowing the adoption of AI (training as a barrier).
- Training should be incorporated in the organizational and business strategies. Training is enhanced by supportive leadership, explicit incentives and a learning culture. These conditions (organizational context) are not enough when training is involved alone.
- Different training is necessary among different marketing positions and among various adopters. The practical AI training that marketers need is marketing-oriented, as opposed to generic IT training (dependence on generic training).

These findings are important in the field of knowledge because they provide a clear connection between training and marketing AI implementation and sustainable performance. The managers and policymakers can also find this study useful: in order to enjoy the fruits of AI in advertisements, human capital needs to be invested. Digital marketing companies ought to invest into continuous AI education (e.g., workshops, mentorship), and marketing educational initiatives have to incorporate AI elements as an element of their business. Therefore, training will make AI more than a hypothetical possibility that can be realized into a practical marketing tool. Otherwise, the AI power is not fully exploited.

Organizations can overcome the adoption gap by focusing on training and skills development to access the promised efficiency and customization offered by AI in advertising, and have a sustainable increase in performance. By focusing on the well-developed business strategy based on the focus on AI training, the organizations will be able to properly benefit AI technologies to attain success in the long term and remain afloat in the digital marketing environment.

The review of the literature and the field study showed that specific training promoted a considerable confidence level in marketers and the number of AI tools. That is, in cases where training bridges the skill difference, AI will be adopted more quickly; in case it is absent, it will not. These are first-hand accounts of data, which adds to the earlier assumption that structured training plays a key role in sustaining the performance of AI.

The present study provides the direct answers to all the three research questions. Relating to RQ1, the findings indicate that marketing organizations possess certain training needs, including acquisition of technical AI skills, analytical skills to interpret AI output, and strategic skills to align AI tools and marketing

objectives. Regarding RQ2, the study demonstrates that training enhances the acceptance of AI by boosting the perceived ease of use and perceived usefulness as the impact of which in turn improves user confidence and effective AI implementation in marketing processes. Lastly, concerning RQ3, the study provides valuable strategies, including; application of directed training programs, quality leadership support, and organizational learning culture that promotes ongoing AI skills acquisition.

7. Implications of the Study

7.1 Managerial Implications

To marketers and advertisers, the findings in this research indicate that investment in technology should be matched with people investment in order to have sustainable high performance. The training needs assessment should precede the implementation of the AIs in firms, and the employees must possess the fundamental skills that can facilitate the business strategy. Some practical solutions involve collaborating with AI vendors providing training (some of them do), introducing internal AI education courses to marketers, and establishing cross-purpose teams with tech-savvy individuals who instruct other members. Timing of the training should also be taken into consideration by the marketers: the most learning is obtained when hands-on sessions are offered during pilot programs. Training should also be conveyed on a top-down basis; the leadership support of learning is a strong message.

7.2 Education and Policy Implications

On a larger scale, institutions of professional and academic programs ought to revise their curriculum and incorporate AI literacy among their marketing students in line with the changing business approaches. It is possible to create certification programs in AI marketing. Those policymakers who are keen on the development of the digital economy can invest in AI reskilling programs, understanding that digital advertising is a major area of sustainable performance. Free or subsidized trainings of AI training workshops should be provided to small business marketers through public-private partnerships.

7.3 Theoretical Implications

Training as a central variable should be included in AI uptake model and its effects on business strategies by technology adoption scholars. The findings of this paper recommend that the constructs of TAM/UTAUT (perceived ease of use or facilitating conditions) should be extended in such a way that they explicitly discuss the quality or intensity of training. In addition to this, qualitative findings highlight the fact that the adoption is a socio-technical process; the future theory ought to combine organizational learning theories with diffusion models in an attempt to explain sustainable performance.

8. Limitations of the Study

There is no study that is free of limitations. To begin with, our results rely on a narrow range of available literature, since a systematic review is used. Second, our qualitative interviews, though informative, had a small sample of only 15 participants in a selected selection of industries. These findings can therefore be generalized only to marketing situations in a limited fashion. Lastly, it did not break down training into discrete parts, but on the other hand, this study did not measure what particular training material or time is best suited to effect the refining of business strategies, this is to be done through empirical research in the future. Given that the interviews took place in North India, cultural and institutional influences, including the organization and education system infrastructures, could be a constraint to transferability. Even though the researchers did not lose the context of the region in our analysis, they warn that the precise dynamics in other countries may be different. Our findings should be experimented in different environments in future studies.

9. Future Scope of the Study

Future studies shall be based on these findings using quantitative and comparative research studies. As an example, longitudinal surveys may quantify the changes in AI usage in case of standardized training interventions, disentangling the training impact on the application of business strategies. Best practices could be narrowed through experimentation (e.g., random assignment to various types of training). The cross-cultural research may look at the role of national education systems or cultural attitudes towards technology in the training adoption by marketing firms and the effect of the training on sustainability performance. The other option is to consider a narrower range of training: Are gamified platforms more effective to use than conventional workshops to market? What is the comparison between continuous AI coaching (e.g. implementing an AI specialist into a team) and seminars? Studies may also be done on the ROI of training, not only adoption rates but also marketing performance indicators (such as ROI uplift) after the training to determine sustainable performance. Lastly, training will differ as AI is advancing at a high pace (e.g. the emergence of generative models like ChatGPT). The skills gap (e.g. decide whether to focus on creative skills or prompt-engineering skills next, and so on) should be revisited on a periodical basis in order to accommodate developing business strategies in the future.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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AI Disclosure

During the preparation of this work the author(s) used generative AI in order to improve the language of the article. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

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