

Influence of AI Big Model Innovation on Digital Marketing Efficiency—Take the Technological Innovation of Hualin International AI Big Model as an Example

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Abstract: This paper researches on the platform economy's AI Model innovations, and AI model's impact on its digital marketing and its efficiency and effectiveness. This paper draws data from Hualin International AI model innovation and its activities, analyzes the data of each digital marketing activity, compares and finds the changes, draws the conclusions about the impacting elements on the digital marketing, finally the paper suggests some recommendations to improve the effectiveness and efficiency of the AI Model innovations to digital marketing.

1. Introduction

How to improve the efficiency of enterprise digital marketing by AI big model in the process of enterprise digital transformation in the digital economy era is a hot spot in current marketing practice and academic circles. The intellectualization of enterprises requires not only large flow, but also high-tech development. This paper focuses on the influence of platform AI big model on its big data service and digital marketing. The case platform of this paper focuses on the great positive effect of AI model, the independent research and development platform of Hualin International, on digital marketing, the various research and development difficulties encountered and the current shortcomings.

Since the release of ChatGPT on November 30, 2022, AI Large Models have attracted much attention, which refers to artificial intelligence models with strong generalization ability and expressive ability, which are trained by using a lot of data and computing resources. It can handle a variety of complex tasks such as text, image, audio and video, such as natural language understanding, computer vision, speech recognition, natural language generation and so on.

The current development of AI big model is that the United States is far ahead, followed by China. In terms of core technologies, the main innovations are Google (DeepMind), Chatgpt4 of OpenAI, Microsoft, Meta and other universities such as Stanford and Berkeley. Most domestic AI manufacturers are located in five major cities in China, including Beijing, Shanghai, Shenzhen, Hangzhou and Guangzhou.

2. Important concepts

2.1. What is the artificial intelligence big model?

Artificial intelligence language model refers to a machine learning model with huge parameter scale and complexity. At present, the four major sectors are the key areas of artificial intelligence model (1. Deep learning field; 2. The field of natural language processing; 3. Image recognition; 4. Speech recognition, etc. These fields are deeply related to linguistics, mathematics, artificial intelligence and computer science, and are especially suitable for the innovation of educational artificial intelligence. At present, AI big model is mainly good at language text creation, and has made great progress in image, voice and video. Especially in 2023, SORA video generation technology is at the forefront, and GAI (Generative AI) has become the most widely used trend in the field of artificial intelligence in 2024, which has great application space for enterprise transformation.

In the process of fine-tuning high-quality data, for example, in NLP natural language processing, we use BERT or GPT3 model to let model AI learn the basic knowledge of language, such as grammar, semantics, logic, common sense, etc. At present, the outstanding ability of AI model is in text classification, text generation, text understanding, text summarization, machine translation, question and answer system and other training, and there are many application scenarios in linguistics and education. For example, in the field of image recognition, the most famous is to use VIT or DALL-E model to highlight the ability of image recognition, such as image color, shape, texture, object and scene, to form a high-quality visual AI model, and to deal with applications such as image classification, image generation, image retrieval, image classification, style and description. In the field of speech recognition, there are famous Wav 2Vec 2.0 and Deep Speech 2, which highlight the ability of the model in phoneme, tone, intonation, speech, emotion recognition and other aspects, forming a general speech model with many application scenarios.

In addition to the data of AI model, algorithm is also the most important core part of AI model, and the design and improvement of algorithm determines the structural efficiency of AI model. Innovative algorithms and technologies can improve AI expression ability, learning and reasoning ability.

2.2. The Famous AI big model

2.2.1. Baidu ERNIE Bot AI big model

Baidu launched ERNIE Bot 4.0 on October, 2023, which can generate videos by inputting themes and keywords. ERNIE Bot's understanding ability, generating ability, logic ability and memory ability constitute the core basic ability of its AI model.

Baidu invested 400 billion yuan in the AI field, and researched and developed 21.416 billion yuan, accounting for 22.4% of the expenses. At present, Wenxin has 40 million users and 54,000 co-developers, covering more than 4,300 application scenarios, and needs to be more innovative and open. Wenxin has a weekly training rate of more than 98% in deep learning technology, multi-modal interactive function, agent mechanism and renewable training technology. It is a typical AI model that starts from technology, is stronger than application and benefits ecology.

2.2.2 360 Intelligent AI Big Model-Marketing Cloud

Liang Zhihui, vice president of 360 Group and head of big model application, focused on the advantages of its AI big model, such as content generation, logical reasoning, and being good at knowledge questioning and answering. 360 has application products such as chat bots, Copilot, AI Agent, etc. 360AI Agent is based on large model capability, knowledge base training, Agent studio,

digital people, AI robots, intelligent products, AIGC knowledge energy chain, etc. After using 360 AI digital people, the enterprise creates the marketing plan of Little Red Book in 2 minutes, which improves the work efficiency several times and reduces the working time by 80%. 360 model marketing copy generation, accurate and controllable generation of high-quality marketing materials, brand IP image design, Wen Sheng map, Tu Sheng map, creative generation adjustment details, changing background, dealing with copyright risks, etc[1-2].

2.2.3. ByteDance's AI big model

Zhang Yiming, the founder of ByteDance, famous for its Douyin & Tik Tok, has always had the idea of AI, convinced that AGI is the breakthrough point of global growth opportunities for ByteDance's core business. It set up an investment fund, COOL RIVER VENTURE HK LIMITED, in Hong Kong to invest in technology-related industries. First of all, in order to cope with the impact of the AI industry in the whole industry, the basic content of UGC in Tik Tok or Douyin has been greatly impacted by AI, and AI writing, painting technology, AI short video and AI live broadcast technology should be broken through. On the other hand, Tik Tok or Douyin APP has AI-assisted content creation tools to improve the marketing efficiency and the speed of content generation and dissemination, and has tried automatic dubbing for reading aloud and voice AI, such as dubbing for various dialects and different features. At present, Tik Tok is a cash mode e-commerce, and Tik Tok without traffic does not have high value and core competitiveness. If e-commerce wants to maintain its core competitiveness for a long time, it must invest in high technology, and invest in digital technology from giants such as Amazon and Ali. Tik Tok's AI big model has large traffic data and advanced parameters, and the algorithm is advanced, so it is a very good research object of AI big model.

2.2.4. Urban Brain-Taking Hangzhou Urban Brain as an Example

Urban brain is the product of the combination of internet brain model and smart city construction, and the core is brain-like urban neural network and urban cloud reflex arc. Social networking, Internet of Things, cloud computing, industrial Internet, big data, artificial intelligence and other cutting-edge technologies provide support for the Internet city brain, making the city smarter.

Hangzhou city brain:

The brain of Hangzhou city is a digital space for people's life in Hangzhou. Citizens can enjoy urban services through it, and urban managers can allocate public resources, make scientific decisions and improve governance efficiency through it. Taking Hangzhou as an example, the urban brain includes 11 systems and 48 application scenarios such as police, transportation, cultural tourism and health, with an average daily data of more than 80 million. Hangzhou City Brain started in April 2016, taking the transportation field as a breakthrough, and started the exploration of using big data to improve urban traffic. The application scenarios of Hangzhou City Brain are constantly enriched. On March 31, 2020, General Secretary said that Hangzhou urban brain is an important measure to build a "digital Hangzhou". He watched Hangzhou urban brain at the Hangzhou Urban Brain Operation Command Center and learned about Hangzhou's practice of using health codes and cloud services to promote epidemic prevention and control and resume production.

3. Case Enterprises: Hualin International AI Big Model

3.1. Introduction to Hualin International

Zhejiang Boguan Hualin Cultural and Creative Co., Ltd. was established in December 2008, and changed its name to Hualin International in 2018. Relying on many university resources, its founder

Haigui returned to China, supported by the entrepreneurship of the Yangtze River Delta Research Institute in Tsinghua, Zhejiang Province. It is a demonstration platform for the integration of production and education in colleges and universities. The company is committed to language education, study abroad agency, translation service, publishing, international business schools, international conferences and exhibitions, foreign affairs reception, etc., digital economy meta-universe, artificial intelligence and blockchain education and enterprise entrepreneurship. Business radiation Jiangsu, Zhejiang and Shanghai, Beijing, Tianjin and Hebei, Guangdong, Hong Kong and Macao, Wuhan, Zhengzhou, Chengdu, Chongqing, Chengdu and other places. Hualin International has gradually become an intelligent digital platform combining online and offline transactions.

3.2. Hualin International Digital Transformation and Innovation

The digital transformation of Hualin International mainly lies in the establishment of an online and offline ecosystem, including major partners in 20 countries all over the world, and the formation of an educational ecosystem. Hualin International has a strong digital live broadcast capability.

Digital process innovation

First of all, Hualin launched its own high-quality micro-vision online or live frequency resource library, which can promote students' autonomous learning ability. Teachers play the roles of guidance, supervision and auxiliary help in teaching management, get a large number of students' autonomous learning information, collect data efficiently, and give priority to objectivity and efficiency.

Digital product innovation

Digital products mainly push digital platforms and quality courses, cloud courses, MOOCS, short videos, drainage videos, video advertisements, live events and so on. Hualin International has launched a series of international business digital courses, such as the mixed courses of Negotiation in Life, International Trade Practice, International Negotiation Practice and English Analysis of Chinese and Foreign Historical Innovative Figures in Netease Cloud Classroom, which is the general trend of the online education era[3].

Hualin International and Digital Technology

The author has published the research results of artificial intelligence combined with language education and machine translation in journals for many years. Hualin International Digital Platform devotes itself to AI-generated content, automatic grading homework, grading and judgment, etc., reducing teachers' mountain workload, and paying attention to cutting-edge digital education technologies such as AI+ and VR can help improve the quality and efficiency of education.

3.3. Hualin International's AI Big Model Innovation and Digital Marketing System

3.3.1. Application of high-tech innovation on Hualin International Platform

- Online living room
- Communication space
- Meta-cosmic technology
- AI technology (chatbot +Chatgpt)
- Uploading and tutoring system for second batch and second change homework
- Robot tutoring-class system

3.3.2. AI Large Model System of Hualin International Platform

Hualin International's AI model consists of the following parts.

- 1) SAAS environment
- 2) AI self-generating system

Self-generated poster
 Self-generated marketing content
 Self-generated marketing text
 Self-generated planning schemes for various activities
 Self-generated picture
 Self-generated video
 Customer and service personnel communication system
 3) Automatic push system
 Course Push Key Customer System
 Inviting client system
 chatbot

4) Second revision and uploading operating system and AI teacher reply system

Following are two tables (Table 1 and Table 2) showing one month of Hualin’s digital marketing activities during the Entrance Exam of National Colleges and Middle school with the help of Hualin’s AI model and its digital marketing.

Table 1: AI Big Model Data Analysis—Taking Hualin International College Entrance Examination Service in 2024 as an example (taking May as an example)

Component of AI big model	AI model innovation services	serial number	Live content	Live broadcast time	Live broadcast length (minutes)	Number of viewers of video number	Number of spectators	Data acquisition	Statistical explanation
SAAS system	Xiao' etong	F1 shopping mall trusteeship	Why can't I improve my IELTS? -Listen to Teacher Shen for 120 minutes and get 3 points in IELTS.	5.10	120m	130	66	Three interactive questions give the thumbs-up comment	
		F2 art design	Why can't I improve my TOEFL? -Listen to Teacher Shen for 120 minutes and get 10 points in TOEFL.	5.11	120m	113	50	Three interactive questions give the thumbs-up comment	
		F3 activity planning online and offline	How to counterattack overseas special promotion/master's degree?	5.12	120m		168 people	10 interactive questions give the thumbs-up comment	
		F4 Copywriting Video Clip Exposure	Live broadcast of Zhejiang senior high school entrance examination	5.14	60m	120	1.2W	No interaction problem give the thumbs-up comment	
AI self-generating system	Poster generation	5	How do high school students apply for prestigious schools in Australia and New Zealand?	5.15	90m	58	2	Three interactive questions give the thumbs-up comment	
	Poster marketing content	6	350 points in the college entrance examination, reversing studying in Australia	5.18	120m	1095/994	eighty-nine	10 interactive questions give the thumbs-up comment	
	Marketing scheme of offline activities	7	Direct contact with Australian universities-fully feel the new life of studying abroad	5.19	120m	1048	51	5 interactive questions give the thumbs-up	

								comment	
	Picture poster	8	Singapore Nanyang Institute of Management Project Introduction Live Broadcast	5.20	30m	1057	39	interaction without give the thumbs-up comment	
	Inviting client system	9	Application of AI big model combined with business format	5.20	60m	66	39	interaction give the thumbs-up comment	
Automatic push system		10	Artificial intelligence AI innovation combined with business application	5.21	60m	75	23	interaction give the thumbs-up comment	
AI operating system		11	Digital VR technology combined with the application of educational format	5.22	60m	29	forty-nine	interaction give the thumbs-up comment	
evaluation system		12	Meta-cosmic technology combined with business application	5.23	60m	The live broadcast has not been completed yet.	The live broadcast has not been completed yet.	interaction give the thumbs-up comment	
		13	The 20th International Animation Festival	5.29	120m	without	46 people	interaction give the thumbs-up comment	

Table 2: Classification of Operation Contents of Hualin International AI Private Domain Platform

serial number	Operational function	Core function classification	general situation
1	Private domain platform	WeChat official account/Applet/Enterprise WeChat/WeChat Community	
2	Public domain platform	Tik Tok/VideoNo./Aauto Quicker/Little Red Book/Bili Bili/Betta Fish/Tiger Tooth, etc.	Help to design and build official website/Mall/Home Page from the perspective of marketing/product promotion. Activity page, product page and other details page design+interactive guidance design and construction Goods and courses push
3	Platform construction	WeChat official account/Applet/Enterprise WeChat/WeChat Community/Tik Tok/VideoNo./Aauto Quicker/Little Red Book/Billie/Betta/Tiger Tooth, etc.	Mall home page and content page content Product details page Fission poster Tuition center Promotion poster in live broadcast room Yi Labao, table cards and other display posters. Operate community promotion posters, and robots push communities.
4	Operation promotion	Art Design/Event Planning/Copywriting/Video Editing	Shop activity design arrangement Community activities and rules planning and formulation Wechat soft text editor/community friend circle activity copywriter/short video and copywriter/course video adds opening and closing clips, excluding course content clips/short publicity video clips.
5	technical support	System technical support	Multi-dimensional technical support such as in-store internal testing+online delivery/background training delivery.

4. Digital Marketing

4.1. Changes from traditional marketing to digital marketing

From traditional marketing to digital marketing, according to Philips Dr. Milton Kotler, the father

of marketing, the symbolic contribution of marketing combined with the evolution of western markets can be divided into the following seven stages, as shown in Table 3:

Table 3: Seven Stages of Kotler Marketing

Age	describe	Marketing development	Key marketing keywords	content
1950s	postwar period	marketing mix	Product life cycle, brand, market segmentation	Marketing concept
1960s	Rapid growth period	4P	Marketing myopia, Lifestyle Marketing.	Expansion of sales concept
1970s	Market turbulence period	Target market selection	Positioning strategy marketing service marketing	social marketing
1980s	Market chaos period	Marketing war	Global marketing, localized marketing and mixed marketing.	Customer relationship marketing
1990s	one-to-one marketing	Emotional marketing	Experience marketing, internet e-commerce marketing	marketing ethics
2000s	Value-driven period	Return on marketing investment	Brand equity marketing, customer equity marketing and social responsibility marketing	Value co-creation marketing
2010s	Values and Big Data Period	Socialized marketing	Big data marketing marketing tribe	Contact flow of community contacts

Source: Philip Kotler delivered a speech at the 2015 World Marketing Summit in Tokyo.

4.2. Important traditional marketing concepts

4.2.1. Marketing 1.0 to Marketing 4.0 (Digital Marketing)

Kotler divides marketing into 1.0-4.0. Marketing 1.0 is product-centered marketing, which sells all the products produced by the factory to those who have the ability to pay.

Marketing 2.0 is a consumer-oriented marketing, and the market has become a consumer with thinking and choice ability. Enterprises need to attract consumers by meeting their specific needs. Such as cleaning, Unilever and other fast-moving consumer goods enterprises have developed thousands of products to meet the needs of different people.

Marketing 3.0 is a cooperative cultural and spiritual marketing, and it is a value-driven marketing. It is committed to meeting the needs of consumers and upgrading the marketing concept to a value-driven marketing.

Marketing 4.0 means that with the development of digital technology, in addition to social media, a customer community has emerged, and platform enterprises have shifted their marketing center to how to actively interact with consumers, so that consumers can participate more in the creation of marketing value. According to the consumer's behavior and trajectory, a large number of behavioral data and analysis are generated, which actually represent the data of countless connection points in contact with customers, gain insight into and meet the needs represented by these connections, and help customers realize their self-worth.

4.2.2. STP Marketing Strategy

STP is the three elements of marketing strategy: market segmentation, target market and market

positioning are the three core elements of the company's marketing strategy.

4.2.3. 4P Marketing

4P is the process of creating, capturing, communicating and transmitting value, including product strategy, deciding to develop new products, how to develop them, how to integrate product lines, and how to make an attractive product market detonation, price strategy, communication strategy, brand equity establishment, channel strategy and other sales strategies in the digital age.

In short, the above marketing concepts, STP, 4P and other principles are applicable in digital marketing where technology, data and customers are integrated.

The Influence of Six AI Models on Digital Marketing

With the rapid development of the digital age and the AI model of technological innovation, enterprises in the digital age must make good use of technological innovation, which is the engine of entrepreneurial innovation to restore the economy. The AI big model focuses on the analysis of the traffic brought by digital marketing, which is influenced by the following three aspects.

Search engine traffic, through digital change contacts, from B-end to C-end, digital change touch evolved from uncertain B-end to BC-end, digital change marketing, change to online, community, network, cognition, transaction and relationship management in the current digital age, and digital change organization and function in marketing. Through the case of Hualin International Platform, we can see that organizations, processes, products and technologies have been digitally innovated. Digital innovation technologies such as AI big model help to analyze all aspects of search engine traffic.

The analysis of social media traffic can observe the influence of traffic spread and activity marketing, and observe the interaction, loyalty, diversity and personalization of data. By paying attention to the heat analysis of specific topics of social media, topics can be mined, analyzed and optimized. Information mining analysis and optimization of new media or social media through AI big model, semantic analysis, classification and topic optimization, which can generate high-quality digital marketing articles, advertisements in digital marketing, user growth, digital marketing business data, accurate user portrait analysis and other technical analysis[4-5].

Advertising traffic has a high target and conversion rate. To study the controllability, flexibility, cost and risk of advertising traffic, it is through mining, analyzing and optimizing keywords, obtaining massive data on the platform and advanced algorithms, deeply understanding and analyzing keywords, and accurately and comprehensively obtaining information. Product managers and operators analyze the effect of optimizing advertising through AI big model technology such as natural language processing, and analyze the display, click volume, click rate, conversion volume and cost of advertisements [6].

5. Conclusion

Although Hualin International AI big model has not yet obtained huge data, it is a lack of research, but we are trying to obtain more high-quality data by combining offline college entrance examination consultation, postgraduate entrance examination consultation and international financial personnel training, so as to realize the platform's AI big model and high technology, and enrich scientific research. The AI big model has brought great innovation to all aspects of digital marketing, no matter from marketing mode, business model, organization, product, process, marketing efficiency, speed, return on investment, interaction mode between customers and organizations, etc., every detail deserves further in-depth study.

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