

The application of AI marketing in enterprise management analysis

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Abstract. This research template explains and analyzes the technique of intelligence marketing. Artificial intelligence is one of the most representative innovations in the area of computer science. It is a big aid when it comes to finishing some straightforward and circular activities, thereby reducing labor expenses and time. Four categories serve as the foundation for the components of intelligence marketing. The goal of data gathering and analysis is to comprehend the overall market and the intended audience. Artificial intelligence is already being used in a number of industries to assist businesses increase their competitive advantage in product pricing and other areas. It introduces and studies how intelligence marketing is used in the real world and how it can evolve in the future. The overall trend is positive and could be broadly applied to more fields to aid businesses in marketing their own goods. This technology will be convinced and used in more fields as it is improved and becomes more precise.

Keywords: Artificial intelligence; Marketing; Economics.

1. Introduction

AI, full name artificial intelligence, is a popular computer technology. It is also known as machine intelligence, and is a branch of computer science that aims to imbue software with the ability to analyze its environment using either predetermined rules and search algorithms, or pattern recognizing machine learning models, and then make decisions based on those analyses. [1] It is the newest kind of computer science and more and more impacts of artificial intelligence are shown. Since it has been shown to have a strong impact on both social and science, the discussion on whether this new kind of technology will bring a giant change in our lives has come to a conclusion.

Artificial intelligence has already had some combinations with varying subjects and has already been introduced to the public as well. However, the combination of marketing and AI seems much more debatable. In the discipline of marketing, humanization plays an important and indispensable part. So, does the rigid but time-consuming algorithm of the computer really apply in this field? The cooperation of AI and humans, to some extent, is becoming more and more effective, especially in the marketing area. It can be used to boost the return on investment (ROI) of marketing campaigns. [2] It integrates data warehousing and data mining techniques, and it allows the flexible creation of multiple problem-orientated materialized views [3]. Also, large quantities of data are used for creating a BIM (Business Intelligence Model), which is for analyzing correlations between the data and consumer preference, in order to customize the most suitable business plans and marketing strategies. Those business plans and market strategies may be an opportunity for companies to spread their ideas to the public.

2. Market Intelligence

2.1 Components of Market Intelligence

In order to make sure artificial intelligence works for the marketing area, people have to first standardize the specific process and then create the peculiar algorithms to maximize the efficiency and practicability. According to the article 'A Market Intelligence Primer', it claims that four parts combine and cooperate with each other together and create the Market Intelligence. Four parts are

mainly competitor intelligence, product intelligence, market understanding, and customer understanding.

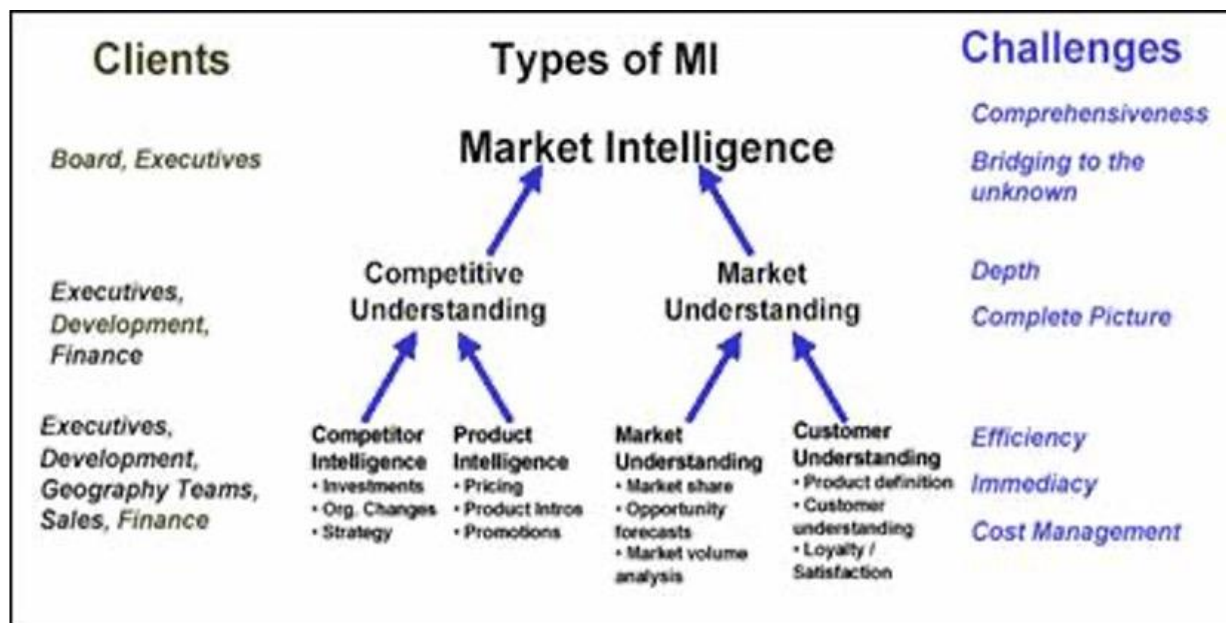


Figure 1. The basic structure of MI.

2.1.1 Competitor Intelligence

Competitor intelligence. Information on rivals that have entered the same market is gathered through competitor intelligence. In order for a corporation to enter a brand-new market, they must first comprehend the situation inside and some of its fundamental characteristics. As an illustration, consider the company's investors, investments, and strategic objective of entering a new market niche. [4] Market barriers always exist for new investors who seek to enter an established market system in a market that is relatively competitive.

2.1.2 Product Intelligence

Product intelligence, defined as a process of gathering, analyzing, and acting on data about how people use your product [5], is the second significant part for marketing analysis. The using of the product could be analyzed therefore to clarify the types of products. The product types have significant effects on the elasticity of the demand of the public. Artificial intelligence could help to figure out the PEDs (price elasticity of demand), YEDs (income elasticity of demand) and even XEDs (cross elasticity of demand) through large amount of data collected from consumers so that they could justify what price level is more reasonable for the public. As a result, companies could set their prices rationally in order to maximize their own profit and become much more competitive on their price at the same time.

2.1.3 Market Understanding

For intelligence marketing, a solid understanding of the market is also essential. Understanding the market involves determining the size of the market, as well as the needs and wants of the consumer. It also involves weighing the benefits and drawbacks of various products in order to accurately target the right client. Artificial intelligence must analyze market data in order to assist humans in learning more about what they must do to join a completely new market and stand out from their rivals.

2.1.4 Customer Understanding

Customer understanding, literal meaning is to understand the customers. The knowledge of the market is a component of it. It must, however, receive more attention because it is a crucial component. Understanding the target market may enable the business to anticipate future market trends, enhance and modernize the features of the product, and increase its level of competitiveness. The goal of

customer knowledge is to maximize consumer satisfaction and loyalty as well as their income. The capacity to please the consumer in the most affordable way is something that a business must fully grasp given the vast amount of information on average income levels.

2.2 Strategies of Intelligence Marketing

In order to start the first step of using intelligence marketing, a background story has to be created. This step is a preparation step to first enter a new market. As Jonah Berger has mentioned in his book “Contagious, Why Things Catch on”, one marketing strategy called stories is introduced. Stories are created by the producers for the sake of increasing visibility. The stories created by the companies have to be creative and interesting enough to catch the customers’ eyes and make the brand unforgettable to the consumers. Therefore, buyer personas are created for this reason. Buyer personas are semi-fictional characters, existing just between the imaginary and your reality [6]. It has to be representative, and it’s better if they could have their own names, experiences. As the personas are more unforgettable to the customers, it could have larger effects on increasing the brand visibility.

Trigger marketing could be used as triggers the automatic sending of a message or email to potential or actual customers in the course of customer journey, for instant after a specific event.[7] Artificial intelligence are great helpers of holding large amounts of data and easily have access to the target customer information, such as email address and phone numbers. How much people pay attention to your email and message could be measured through some specific way as the time they stopped looking at your message about the companies. The segment could be created and the range of target individuals will be more specific. Companies could learn more about the desire of consumers therefore to reach their satisfaction and expectation of their goods and services. This strategy of intelligent marketing increases the efficiency of spreading their brand through the public to a great extent.

In order to occupy the market first step ahead, not only absolute advantage is needed, but also comparative advantage is an essential consideration. Increasing the company’s competitive advantage of their product through competitive intelligence is a strategy of marketing intelligence. Keeping an eye on the competition and upcoming trends enables a business to be one step ahead. [8] Absolute advantage refers to a company’s capability of producing their goods and services, as comparative advantage is that companies have lower opportunity costs. It is more related to their product’s raw material and how focused the company is. Its reputation among the public will definitely increase. When the brand is popular among the consumer, the social currency and trigger are helping the brand to increase their customer loyalty. Due to consumers’ increased propensity to upload photos to social media, several fashion firms are receiving more visibility. Additionally, if a fashion brand concentrates on one style and accomplishes it to the best of its ability, over time the public will identify this brand with this type of style, and over time this aesthetic develops into the brand’s trigger.

3. Applicable

Some marketing areas have already applied intelligence to help companies become more aware about the market situation. Especially in the tourist industry, intelligence marketing has applied and combined with the marketing concept of “4P”, which is Product, Pricing, Place and Promotion, to facilitate the development of tourism. The technology of intelligence marketing not only expand the operation of the product of touring experience, but also set the price level more precisely, two-way price interaction mechanism was calculated by the intelligence algorithms.[9] Simultaneously, SNS (social networking services) are widely being used and collected the data in order to build a personal network infrastructure software. The range and speed of transmission will largely increase as the advertisements are pushed to the specific customer that has more interest in tourism.

In real life, top management has their basic model of applying marketing intelligence into their company. The technology has been used to help them in budgetary control, expansion of time horizons. They have enough manufacturing costs to hold better machinery for gathering information.

With the help of this, their decision making will be more suitable as the machine could gather more known and unknown information in real life. Since they are ever more unknown coming into the decision-making matrix, and since the influence and direction of these unknowns must be evaluated. This puts a great strain on information gathering resources in business firms. [10] The result will undoubtedly match reality more closely as the input becomes more precise. The graphic briefly displays the marketing intelligence processing flow that top management has been using.

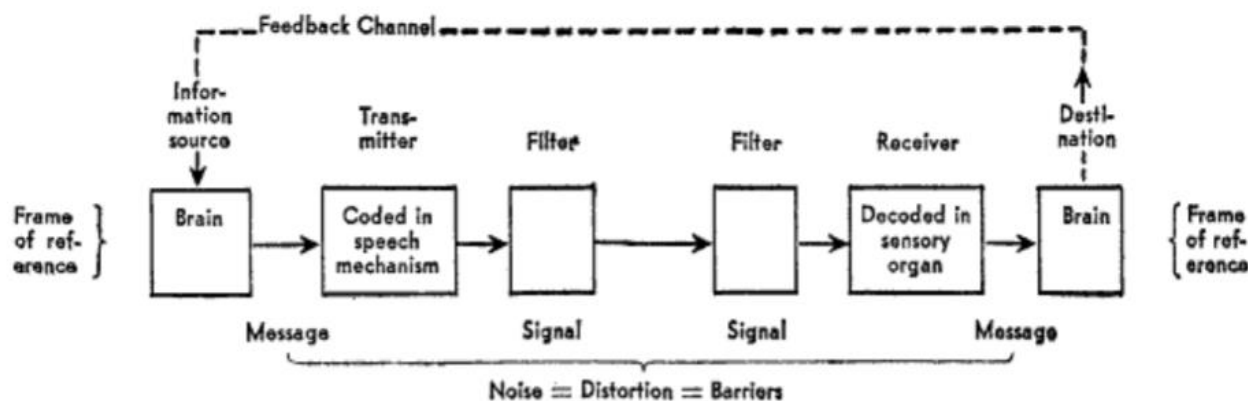


Figure 2. Processing outline of top management's MI.

A company called “SEVEN DEER” launched a new product of smart marketing, which is known as B2S2C (BOSS to Sales to Customer), based on artificial techniques and WeChat. This program gets through the relationship between business managers and customers, keeps the quick collection of information and then quickly seize business opportunities. With cooperating with the AI technique, both customer and manager will benefit from it. Under the context of the epidemic, the economic and international trade have been greatly affected. Those SMEs (small and medium-sized enterprises) have to come up with certain marketing solutions for them to survive. However, in the context of an epidemic environment, a large amount of ridership has transferred from offline to online. As a result, catching the opportunity is essential. For saving raw costs and avoiding loopholes where professionals are missing, marketing intelligence's characteristics of simple and smart provide a great help to SMEs. According to the data provided by the company, the intelligence program created by them helped increase the sales by more than 10 million yuan, and more than 50 million yuan has been saved in advertising costs. The program is applicable to several areas such as finance, education, and medical treatment.

4. Future Development

The intelligence marketing is going to be the main future tendency and more areas will start combining AI with their fundamental knowledge. First, artificial intelligence is becoming more and more perfect, not only in its precision and reliability, but also the infrastructure is being optimized by human beings. For those single tasks that need to be repeated many times, Artificial Intelligence will definitely do a better job than human beings and slowly replace us entirely. Second, the barrier of marketing will definitely decrease if more types of smart marketing programs are coming out. It helps decrease the costs of marketing and increase the efficiency of marketing because they have accurately focused on the main target customer, that's what all managers are expected to do. From the perspectives of customers, the number of information they receive on the internet would increase as it's becoming more and more developed. However, when AI marketing is truly being used by companies, advertisements and other types of information are pushed to them based on their most current preferences and biases and also based on their expected price level. The satisfaction of them will totally increase.

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5. Conclusion

In the era of rapid information development, reliable data derived from AI analysis helps people analyze the market demand and bias more objectively, and helps sellers better understand how to quickly and accurately capture consumers' attention and stand out from the huge market competition. The algorithm designer of the intelligence market now believes that the general structure of AI marketing should be made up of four components, which are competitor intelligence, product intelligence, market understanding and customer understanding. The majority of the market is covered by the four factors that have been mentioned.

Intelligence marketing is still expected to have a highly bright future. It is highly probable to be used in the future in a number of marketing-related industries in order to drastically minimize the effort placed on humans and the myriad faults brought on by the analytical process. Companies aim to minimize errors made when assessing data and the market therefore to get stronger comparative advantage and profit. As a result, it is anticipated that intelligent marketing technology will develop and be improved to some degree. More internal information and external information are being collected, therefore the model of market created by artificial intelligence will have less and less interference points, which are the uncontrollable external factors that may affect AI's judgment. Research on this method is still ongoing to improve its accuracy and viability.

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