

Marketing Strategy and System Built on Big Data for The Global Market

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ABSTRACT

Intelligent, global marketing system and approach of a new sort. Traditional market research and the sophisticated worldwide marketing system are brought together in this method. In the age of the Internet, smart phones, and social networks, it may help bring global brand strategy to fruition. Its primary strength is that it unifies the whole product-promotion process, from the first stages of product development and advertising through the last stages of customer support and the online buying experience. Cost-cutting is also tied to the use of smart systems that are built on the backs of big data and multinational marketing strategies.

Keywords: - marketing method, Big Data, Global market, Strategy.

I. INTRODUCTION

Traditional firms in China have relied on low-cost and comprehensive development to achieve economic success and play a pivotal role in the country's overall economy. But as China's economic transformation speeds up, traditional enterprises are displaying more and more development disadvantages, such as a dearth of professional and technical talents and funds, a sluggish transformation of scientific and technological innovation, an unreasonable industrial layout, low added value products, a lack of Internet awareness among enterprise executives, and a stubborn adherence to the traditional business management mode[1]. The inability to overcome these obstacles hinders conventional businesses' efforts to upgrade their technology, boost their productivity, and lower their expenses in order to escape the development quagmire. The combination of "Internet Plus conventional industries" is the current trend. Therefore, one of the efficient strategies for conventional firms to attain transformation and upgrading is by using Internet-thinking and network marketing mode to connect traditional industries with important developing sectors.

These days, the concept of "big data" is no longer foreign in China. There has been an uptick in the number of businesses testing new waters. Many new advertising agencies focus on big data, and some of the biggest names in business have never ceased pushing into the field. Every major tech company, from Alibaba and Tencent to Facebook, Microsoft,

and Google, is working on some kind of big data application. Companies across many sectors have the ability to rapidly adapt to changes in their own marketing strategy[2]. Many new divisions have been created as part of the marketing system's reorganisation, including the data division, the product management division, the product marketing division, the product marketing operation division, and so on. The marketing infrastructure in the channel is permeating both upstream and downstream, including not just customers but also partners and other channels. They've either developed their own data analysis platform or partnered with an external service to better serve their clientele.

Accurate and long-lasting enterprise marketing is now within reach in the age of big data, but there is currently no industry leader that can deliver comprehensive enterprise big data marketing solutions to aid businesses in realising the potential of big data. The process of implementing big data marketing by means of internal development or external integration into existing systems is lengthy and intricate for businesses. Businesses must revise their internal structures, use the marketing system as a point of departure for implementation, expand their marketing responsibilities to include big data, and work together to fulfil the demands of the expanding big data market. Research on big data marketing is now centred on e-mail. Not only is the potential of big data marketing not being used systematically in online precision advertising and conventional data mining, but there is also a dearth of study into the

practical applications of this area. You can see the processing flow of the data warehouse system in

Figure 1.

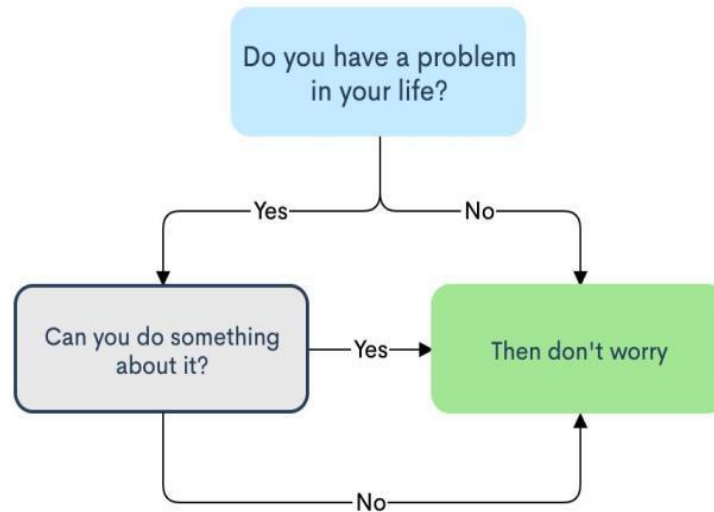


Fig.1 Process Flow in a Data Warehousing System

II. RELATEDWORKS

Zhang. Using cloud computing and large amounts of data, the marketing management system may be optimised [1]. Yang Liu. The use of big data in social network marketing and individualised suggestion [2]. LMD's Crucial Functions Marketing product and service innovation from Luca, Herhausen D., Troilo G., and others [3]. U–XY. In the age of big data, new innovations in agricultural product marketing using intelligent marketing technology are being made possible through scientific direct marketing. [4]. Master of Engineering, Wang Zhao. Using a prediction model and prediction criteria, oil sales businesses have developed a procurement strategy [5]. The engineering guru Cai Liao. Studies of the impact of business-to-consumer (B2C) online advertising using a multimodal approach and the LS-SVM algorithm [6]. Oh, poetry; ladies; the works. Evaluating the efficacy of fine marketing in the context of an online community, using the AISAS framework [7]. Using huge data from the Arab Middle East and unsupervised learning techniques, your team may develop algorithms for predicting consumer satisfaction in online social networks [8]. Deng, Tan Tianle, Tan Bing, sun Deming. Segmenting Vietnamese SMEs' clientele based on their data in the age of big data [9]. Just keep saying "Wang," "Wang," "Wang," etc. China's big data-driven business growth is aided by the widespread availability of the web [10].

"Theoretical communities now have a range of views on what big data really is. "Big data," as defined by Manica, "is information that is so large that it would take an excessive amount of time to handle using standard database software." Big data, according to Macafee and brinjolfsson, is just another kind of "analysis." E. Something Else According to the McKinsey Global Institute (Migi), the term "big data" is used to describe datasets that are too large to be easily collected and stored. Big data is defined as a "new structure and technology intended to allow cheaper access to data with high frequency, enormous capacity, varied architectures and data kinds" by the International Data Corporation (IDE). Nist The Big Data Working Group has concluded that the term "big data" describes novel data sets that cannot be handled by the current data processing infrastructure, and that it is, therefore, required to switch to a more effective design. Large storage capacity, several data kinds, data differences, and data dynamics (mobility and changeability) are all characteristics of such datasets. According to the knowledge of these organisations, big data is a cutting-edge technology that was developed to manage massive amounts of data that are more difficult to process conventionally. The big data marketing framework may be implemented in three stages: strategy & planning, infrastructure, and management (process).

(1) **Methods for developing a marketing plan:** Under the supervision of marketing theory, it is the enterprise management's assumed course of action and time-bound strategy to bring the firm's market value to fruition.

Having a well-defined marketing strategy and plan helps get everyone on the same page, allows marketing operations to be carried out methodically, and boosts a company's capacity to compete and adapt. In order to establish a firm foundation and continue expanding in today's competitive market, it is critical that we excel at marketing strategy and planning, recognise and capitalise on opportunities as they arise, modify our strategies as necessary, and be willing to accept and even embrace change and uncertainty as part of doing business. Strategic planning, market planning, brand strategy, promotion strategy, and product development are all components of marketing strategy and planning from the standpoint of company management.

(2) **Institution for Marketing:** The heart of enterprise marketing management is the organisation, which comprises the human element, the degree of execution of the business marketing strategy, and the active factor. Management of marketing organisations is responsible for planning the organisational form of marketing staff since the structure established in marketing organisations greatly affects the efficiency and revenue of marketing operations. Included in the marketing organization's contents are the structure of the group, the people who fill various roles within the group, and so on. It's possible to categorise businesses in terms of their location, purpose, or output.

(3) **Marketing Administration:** Business strategy is the culmination of several interrelated tasks, including market research and analysis, product development and revision, pricing decisions, advertising and promotion, public relations strategy, and brand and customer relationship management. It consists of the marketing innovation guarantee system, the marketing research system, the marketing brand system, and the marketing channel system (customer relationships). This section covers topics such as enterprise product marketing, sales channel design, company promotion strategies, dealer management, etc[3]. These three components make up a significant chunk of the enterprise marketing system, and they're also needed to build a big data marketing system. Although businesses are also engaged in similar tasks, it is not as visible in practise. For content, it's merely that there isn't any systematic professional development, that people have a too limited grasp of the marketing system, or that it's a basic human issue that causes it to be ignored. The operation efficiency and competitiveness of marketing firms are sometimes negatively impacted because the developed marketing system is at odds with the real business demands and cannot successfully execute the business process.

The term "big data" is shorthand for a massive amount of information. Since the information age's dawn, we have seen many company user data sets aggregate to the Pb level. Second, it's a generic term for a vast area containing many different kinds of information in many different places. Semi-structured data and unstructured data (such as social media, audio, video, photos, geographic location information, etc.) have joined the formerly exclusive structured data category. Third, when the real application is taken into account, the server requirements are larger than those for regular data[4]. If it cannot immediately promise the correspondingly large volume of data processing, it will lose much of its economic value. Authentic data, more data sources, exponential data development across all domains (social, industrial, machine acquisition, application data, etc.), and more are all part of the fourth characteristic. Big data's veracity can be verified, unlocking its infinite economic worth for business marketing while also representing a disruption to and improvement upon the status quo of conventional advertising channels and practises.

Information gathering for big data marketing may be broken down into four stages: collecting (business promotion), import and preparation (Data Department), statistics and analysis, and data mining (data utilization). Neither the act of collecting nor storing data can accurately represent the value created by applications built on top of big data technologies. Actual value comes from having real large data processed properly according to a preset plan to turn it into data that can be "spoken" and useful. It's also the backbone of the material that data marketing needs. As a result, the emphasis of the study is on how businesses can manage their huge amounts of big data and get value from it. Across-border is the hot subject in the world of big data. Before big data, there is no distinction across industries; not even the barrier of 020 matters. Big data marketing inside businesses will be standardised, and may even evolve into an information-based solution, as the traditional borders between nations begin to dissolve. Figure 2 depicts the process flow.

Despite its massive size, big data cannot perform its function on its own. But before it can do its job, the company has to figure out what it's for and how it will go about promoting itself. Understanding the connection

between big data and marketing strategy is crucial for accessing the data gold mine. This advancement in technology allows for targeted advertising. Big data, as defined by the 4V characteristic, consists of very large amounts of very many different forms of very poor value data. Big data may be recognised by its large volume, many formats, and poor value. These data are inherently disorganised and unfit for immediate application, as shown by their own properties. Based on the dikw data hierarchy model, data is at the very base of the pyramid. Data in this layer might be helpful or worthless, and since the data formats are not standardised, it can be kept in disarray and not put to any commercial use. Processing times must be "rapid" for large data, since this is a key characteristic of the data type. The time it takes to handle vast amounts of data may be drastically reduced by using big data because of the unique technological architecture it employs. The system can finish the computation and output results in one second, which is fast enough to meet the demands of the individuals utilising the system. Big data cannot be used immediately because of its low density. The data must be extracted before it can be utilised. No matter what channels (social, email, or elsewhere) are used in precision marketing, all decisions must ultimately be based on data. In the absence of information, it will be unable to properly choose users, evaluate user IDs, or determine user preferences.

By use of the Xiaomi community, Xiaomi has amassed a following amongst its users, and in doing so, has been able to collect demographic information on its users, including their age, gender, location, profession, and income. These supporters offered their own suggestions for the product's design in the community and provided feedback on the mobile phone's functionality. It is only by sifting and analysing the huge information provided by these consumers that Xiaomi can acquire the product design and locate new users. Imagine if Xiaomi didn't have access to such vast amounts of data and data processing technologies; would they still be able to undermine the conventional means by which mobile phones are made? As for the second question, the answer is also negative. The foundation of precision marketing, scene marketing, and consumer segmentation is now big data. Businesses will be stuck in the past if they don't use big data analytics.

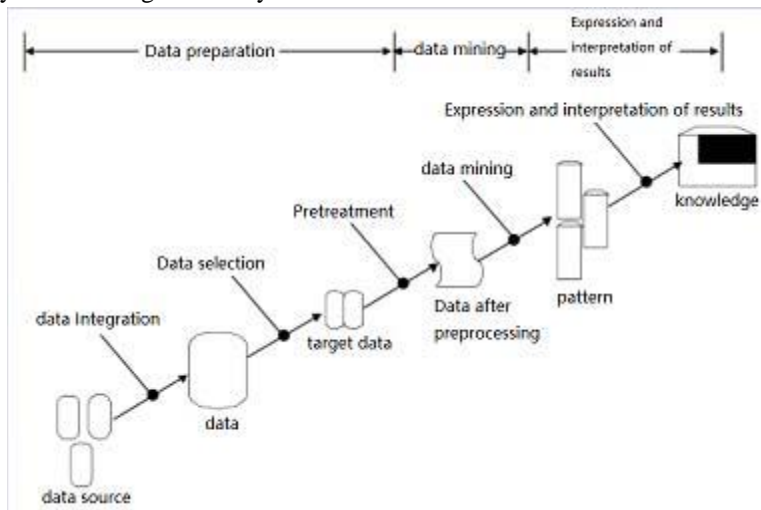


Fig.2 Schematic representation of data mining

III. PROPOSED SYSTEM ARCHITECTURE

(1) Locate Primary Data Sources

Big data may be collected from a wide variety of places. The nature and reliability of large data depend on where it came from. Before beginning to construct huge data, it is important to trace its origins. There are three distinct varieties of information: the structured, the semi-structured, and the unstructured. Only the first two categories may be understood by a computer. When compared to semi-structured and unstructured data, structured data is of higher quality and meaning.

(2) Define the business need and the criteria for data collection.

It is important to define the business's goals at this stage so that the appropriate data kinds and targeted marketing approaches may be developed. Numerous commercial goals need more than one method of advertising. As a result, businesses need to first define the range and model of the chosen region data, and then create strategy approaches to achieve those ends. A common marketing practise is to survey customers after they've made a purchase to gauge their level of satisfaction with the product or service they've purchased and identify ways to improve it. For the time being, the most fundamental pieces of information are the user's purchase history, ratings and reviews, as well as a profile picture. Through the study of these data, it is \sfound that the people who make unfavourable remarks are basically \sdrivers. Researchers discovered that the vast majority of vehicle operators had difficulties when utilising the product. Those customers need expedited service or enhanced features.

(3) Analysis and verification based on models

Data modelling and correlation analysis are necessary once the data range has been established for operational reasons. It is not possible to immediately use the analysis's findings. In 1951, a British statistician named E.H. Simpson proposed a theory known as the "Simpson paradox"[5] in which two sets of data satisfy particular features during statistical computation yet, when combined, lead to contradictory results. Hidden in the outcomes of big data analysis are several plausible fallacies, such as the "Simpson paradox" that was stated before. This means the data analyst must double-check the circumstance before relying on the analysis findings.

Big data marketing's data collecting phase may shed light on customers' actual information and habits for businesses. Product development may start with users' own data collecting, summarization, and mining of possible requirements. The enterprise's product team can swiftly react to assist consumers realise customisation, and generate goods that can best satisfy users' wants to meet market needs after decision-making firms strive to develop. We anticipate that this approach to marketing will be able to correctly exploit market opportunities and meet the varied needs of today's consumers[6]. When put into practise, it will usher in novel approaches to advertising in the years to come. Companies may simply promote their products and services in the following three areas using one of the myriad customizable classified databases available today:

First, businesses may utilise big data analysis to identify target audiences and disseminate relevant, up-to-date content by strategically coordinating marketing efforts to increase consumer demand.

Second, as seen in Figure 3, big data marketing is focused on the already-converted customer base, making full use of data processing power to analyse users' activity data and push personalised items to each user based on their unique combination of interests, preferences, and demographics.

Third, businesses create a personality database that can categorise customers into different "labels" (like industry classification, income classification, and behaviour classification) based on their individual traits, and then market to each of these subsets with a unique set of stresses and specialised endeavours. The use of big data in business also extends to rescuing and compensating for consumers who abandon their purchases midway due to a bad user experience, misperceptions about the brand, or both. Corporations may now more easily identify different types of consumers and gauge customer sentiment thanks to big data.

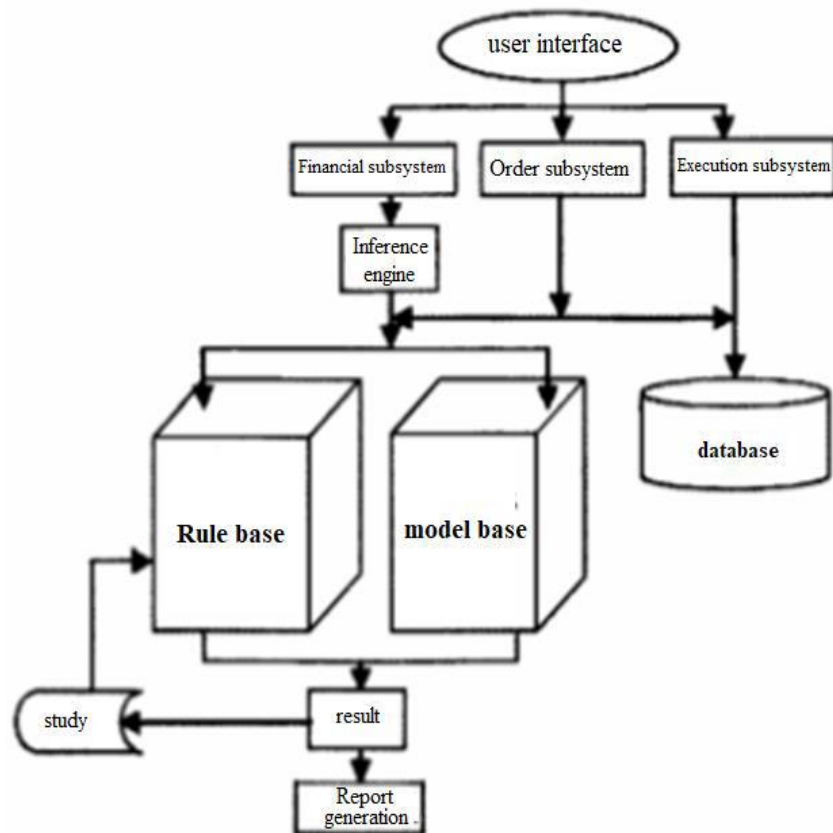


Fig.3 A Big Data-driven Framework for Intelligent Global Marketing

Companies may tailor interactions with customers to the loyalty of individual clients. There will soon be new literature devoted to this emerging discipline of customer relationship management. Numerous public and commercial databases are available for research. To a large extent, big data comes from the following five places:

(1) **It's all about the mobile data for communications.**

With the advent of the mobile Internet, it is no longer only desktop computers that have access to the web. Smartphones and tablets, in contrast to personal computers, are capable of recording a plethora of data that is superior to that which is mastered by conventional Internet service providers. In addition to facilitating communication between users, the software on mobile devices makes it simple to collect a wide range of sensitive information about users, including information on their interactions with websites and applications.

(2) **Statistics based on behaviour.**

E-mail, papers, images, music, video, etc. are all examples of artificial data created by different Internet apps. Text analysis is needed for unstructured data.

(3) **Sensor and machine data.**

Mobile Internet makes use of the many sensors and in-built GPS found in modern smartphones and other portable electronic devices. Information will be created and generated mechanically by these gadgets. For instance, individuals constantly create geographic information and sports information through their mobile phones, which may be utilised for a wide range of health-related applications; 5g will be made available to the public in 2019[7]. The Internet of Things is the primary use case for 5g technology. A great deal of information can be produced by the Internet of Things' equipment and sensors. It is possible, for instance, to produce and send over the Internet of Things data for monitoring the room temperature at a predetermined interval using a temperature sensor.

(4) **Internet-based "open data" repositories.**

The government and nonprofits now give a wealth of open data. Cinema industry box office data, for instance, is readily available online because to the existence of film big data. We may use these numbers to learn how well-known performers do at the box office[8].

Precision marketing may be seen of as a subset of relevance marketing, with the emphasis placed on pinpoint accuracy. Customers are the ultimate arbiters of relevance. Information is considered relevant only if it is useful to the client. CMO Council found that if buyers were given useless information about a brand, 63% of them would quit purchasing that brand altogether. An insurmountable barrier to further advertising will be erected with each piece of superfluous data. Customers want you to tailor your marketing efforts to them, according to information management magazine authors Tom Hannigan and Christina silanno, who specialise in customer relationship management. This enlightens us to the fact that we need to employ demographics, historical data, and forecast data to develop appropriate marketing information, and that we need to create relevant marketing information according to clients' consumption history.

There are three ways to make sense of this sentence: the first is the importance of location, which serves as the sentence's basis. It is important that it be not simply separated, but that the divisions be precise[9]. The second is a customer-centric marketing strategy that takes into account the specifics of each individual client's circumstance via the use of data collected through a tailored communication system. As for the third point, the objective is to grow, boost competitiveness, and quantify the low cost all at once.

Fundamental to this procedure is an examination of consumers' many perspectives, including their wants, interests, pastimes, and general mindsets. Therefore, direct selling banks not only engage in precision marketing, but also pay more attention to outcomes and conduct.

Precision marketing is a method of business management and operations that places a greater emphasis on maximising profits for companies.

To succeed, businesses need to be nimble enough to respond quickly to shifts in the market and intense competition, equipped to analyse large amounts of data, able to anticipate and react to changing client preferences, and able to deliver on specific, individual orders. Target marketing, interactive marketing, and event marketing are all forms of precision marketing that, according to international practise, provide a better response rate from the public than the traditional public marketing model. There is a 0.2% to 3.1% response rate for mass marketing, a 2.0% to 4.9% response rate for target marketing, an 8.2% to 14.6% response rate for interactive marketing, an 18% to 34% response rate for event marketing, and an 18% to 34% response rate for integrated marketing. [10].

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IV. RESULTS AND DISCUSSION

- (1) **The growing emphasis on data analysis and computerization in marketing.** Changes and improvements are coming to the marketing system. Due to the growing volume of information flowing both within and outside of businesses, conventional ways of processing work have become insufficient. Today's marketing departments can't function without some type of digital marketing information management solutions. Cockpits and dashboards are often referenced in business intelligence reports, two examples of intelligent or information-based technologies that may be utilised to gather reliable corporate marketing data. Data pertaining to marketing activities (sales performance, customer information, market circumstances, etc.) are fed into a big data platform, and reports on these metrics are then generated automatically after thorough analysis. Based on this, businesses implement marketing strategies. Examples include the fact that electronic channel operations have standardised data collecting that is both accurate and up-to-date, hence drastically cutting down on stock and speeding up the cash turnover rate. Managers may swiftly adapt their market plans and actions in response to growing amounts of relevant market data.
- (2) **Changes in the marketing system and its associated procedures.** Under the impact of new technologies, the marketing process may shift, the whole marketing cycle may grow in size and duration, and the enterprise marketing system may find itself with more possibilities to step in. Product knowledge, market research, customer data analysis, customer contact, sales contract signing, post-sale follow-up visit, money collection, statement drafting, after-sales service, customer maintenance management, etc. are all part of the conventional marketing process. Product network research, customer targeting, landing page creation, order feedback monitoring, customer care, account management, new demand mining, and other similar activities may replace the traditional marketing process under Internet marketing. In Figure 4, we have outlined the overarching steps of corporate marketing as they pertain to the big data ecosystem.
- (3) **Innovative advertising framework.** Businesses confront a more challenging market environment in a market economy. Enterprises need to make timely adjustments to internal behaviour, evaluate connected aspects in depth, and establish matching marketing strategies in order to survive and flourish in the face of environmental and other challenges. As businesses expand, the lines between marketing and research and development, customer service, and other divisions may begin to blur. A dynamic marketing system may become the standard for businesses, since its design attempts to make them more competitive. To illustrate, refer to Figure 4.



Fig. 4 Channels of International Promotion that Use Intelligence

Research and development, as well as ongoing maintenance and upkeep, of technological infrastructure, is a significant part of big data marketing. Creating a big data platform is seen by many businesses as crucial to the informatization of their marketing departments at the moment. There is no one "one right approach" for businesses to amass massive amounts of data. Studies have shown two primary categories of big data platforms: those that are produced in-house and those that are purchased from an outside vendor. Here are the primary distinctions between the two.

- (1) **Investment and return.** The time and effort put into creating your own big data platform will likely pay off well in the long run. The R&D cycle is lengthy and the corporation must devote significant time and money to it. It is more probable that we can create a bespoke platform fit for the development demands of the organisation if we perform a solid job in the function positioning of the big data platform prior to self-construction. It should be simple to do upgrades and maintenance in the future. This product's modular design allows the third-party big data platform to pick and choose the components it needs in order to be assembled rapidly.
- (2) **Enterprise data resources.** Businesses with vast data resources might benefit from a custom-built platform. It is not worthwhile for a business to spend the effort and resources required to develop its own platform if it does not have a large surplus of resources. If a company doesn't have access to a wealth of internal data, the best it can do for targeted advertising is to acquire its information from outside.
- (3) **Data security.** Self-built systems have more control over their data security and are less likely to have accidental data leaks. In example, there are clients with very stringent needs for data privacy, and the repercussions of a breach are just incalculable.

From a product standpoint, the optimal platform is the big data platform that can meet the precise requirements of an organization's current marketing strategy. Step two of the platform construction process involves determining demand and allocating tasks. Organizations need to take the following steps:

- (1) Firstly, set up dedicated working groups. Work on the platform should be delegated to a dedicated team or project group inside the company. It is recommended that business executives drive the implementation of the significance and need of building a big data platform from the ground up. Initial project teams may include members from many functional areas within an organisation; after the groundwork has been laid and roles have been defined, the project team will be formally introduced.
- (2) Second, we scout the market. Think about the larger picture in terms of big data's benefits, potential dangers, and potential future directions for your job. This phase of the project directly affects the subsequent phases, the associated costs, and the anticipated earnings. To get buy-in from upper management, businesses are advised to develop strategies by analysing primary market data and secondary literature.
- (3) Stage three of a demand-driven programme. Gather all relevant big data marketing departments for a demand meeting, then summarise and assess their requirements to develop a rough demand strategy. Implement the plan's division of work.

V. FUTURE SCOPE AND CONCLUSION

China's economy has been growing and attracting international investment for some time now, creating opportunity for local businesses to thrive alongside their foreign counterparts. To take full advantage of this opening, Taizhong Group must commit to its internationalisation plan, enhance its foreign marketing prowess, and work toward the group's growth and expansion. There are several facets of market and product growth that may be influenced by marketing. There has to be a greater fusion of marketing theory and practise if we're going to be

able to overcome the obstacles we face in growing into international markets. The primary objective of this paper is to enhance the core competitiveness of domestic linked industries via the examination and debate of international marketing tactics.

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