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A Simple Analysis of Revolution and Innovation of Marketing Mix Theory from Big Data Perspective

Krishna Gupta
Vivekananda Institute of Professional Studies, New Delhi

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ABSTRACT

Big data technology is being used to combine data, convert it into strategic and essential resources for business marketing management, and create and incorporate management processes; implementing a data-driven marketing mix strategy has emerged as a hotspot for study and has had a significant impact on conventional marketing theory, particularly marketing mix theory. This study analyses the revolutionary idea and implementation form of traditional marketing mix theory from a big data perspective. It also studies developing creative marketing mix pattern tactics against a big data backdrop.

INTRODUCTION

Big data research is on the rise, and Western industrialised nations like America and Japan have recently integrated big data development strategies into their national strategic plans.

The degree of internal enterprise management information integration has steadily increased with the growth of cloud computing and the popularity of the Internet.

Businesses increasingly rely on market data when developing product marketing mix plans. Managers must extract valuable information from large amounts of data, comprehend consumer demand, grasp market principles, quickly create an efficient marketing mix, and hold a dominant position in the market. Both industry and academic circles focus on research on how big data technology might support enterprise marketing management.

THE BIG DATA CONCEPT

Big data, also known as mass data, is the term used to describe data so vast in volume that it cannot be acquired, handled, processed, and organised into more useful information that aids businesses in making operational decisions promptly using current mainstream software tools. The four Vs of big data are volume, velocity, variety, and veracity. Big data is a state-of-the-art data analysis system that can quickly examine and extract useful information from large, complex data sets.

Numerous domestic businesses, particularly Internet companies like Alibaba and Tencent, are currently using big data technology in enterprise marketing management. By gathering and analysing client network behaviours and purchase records, they mine various types of commercial information and create relevant marketing plans to help firm managers carry out various basic marketing tasks.

Table 1: The traditional marketing mix with how big data influences its revolution and innovation

Aspect	Traditional Marketing Mix	Big Data Perspective
Data Collection	Surveys, focus groups	Real-time data collection through web analytics, IoT devices, social media platforms, and customer interactions.

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Segmentation	Demographic-based	Micro-segmentation using predictive analytics, machine learning, and behavioral data.
Product Development	Based on limited feedback	Data-driven insights from market trends, customer reviews, and competitor analysis for personalized and innovative product offerings.
Pricing Strategy	Cost-plus pricing	Dynamic pricing models driven by real-time demand analysis, competitor pricing, and consumer purchasing behavior.
Promotion	Mass media campaigns	Personalized, AI-driven campaigns utilizing predictive analytics, customer journey mapping, and omnichannel strategies.
Place (Distribution)	Brick-and-mortar stores	E-commerce, direct-to-consumer models, and logistics optimization through big data analysis.
Customer Relationship	One-way communication	Interactive, real-time customer engagement using chatbots, AI assistants, and social media platforms.
Analytics and Feedback	Post-campaign surveys	Continuous feedback through real-time analytics, sentiment analysis, and customer feedback loops.
Innovation and Agility	Incremental changes	Rapid prototyping, A/B testing, and real-time decision-making enabled by advanced analytics and machine learning models.

Decision Making	Experience-based	Data-driven decision-making leveraging advanced visualization tools and AI-powered decision support systems.
Market Trends Analysis	Quarterly or yearly reviews	Real-time trend analysis through automated big data tools and predictive algorithms.
Customer-Centric Approach	Limited personalization	Hyper-personalized strategies informed by big data analytics and AI-driven insights into consumer behavior and preferences.
Performance Metrics	Sales figures and ROI	Comprehensive KPIs, including customer lifetime value (CLV), net promoter score (NPS), and detailed digital engagement metrics like click-through rates.

REFORM OF MARKETING MIX THEORY UNDER BIG DATA BACKGROUND

A. Relevant Influencing Factors Are More Complex When the Enterprise Develops Product Strategies

The firm is severely constrained in researching and developing product strategies because traditional product strategies mostly concentrate on product mix strategy, new product development strategy, product life cycle strategy, etc. This is one of many elements impacting enterprise product strategies in the big data era. First of all, there are more data sources than ever before, connections between various data types are likely to lead to poor business operating decision-making, and created data should receive more attention and be thoroughly gathered.

Second, enterprise specialists must convert data into visual-specific data that can be utilised to inform decisions using data mining and classification technologies because of the significant challenges associated with data screening, analysis, and application.

Ultimately, following the development and execution of product strategies, the company will receive a faster market response, enabling market analysts to promptly gather information about new items as they are introduced to the market through various marketing channels.

B. Analysing and mastering the formulation of enterprise product pricing strategies is becoming increasingly challenging

The development of pricing strategies is tightly tied to consumer purchasing desire and purchasing power in the big data era due to the ongoing import of numerous competition variables and customers' continuously improved psychology and behaviours. The development of pricing strategies in the age of the networking economy brings about new developments, including the measurement and intervention of the product life cycle, the refinement and complexity of market demand, and the occurrence and use of network marketing.

Following the import and analysis of the big data-supported business marketing pattern, the firm will be greatly influenced to adopt particular pricing strategies by the estimation of product cost, locking of target groups, and approved price information. After implementing big data analysis, fair pricing is crucial to the company's ability to quickly enter new markets, particularly for high-tech products like electronics.

C. Enterprise marketing channels are always being extended and expanded in meaning.

Traditional marketing channels strongly emphasise forming pyramid-type channel partnerships. They offer a layer-by-layer agent-type marketing philosophy and mode, steadily raising company marketing costs while producing less-than-ideal results. Using networked and digitalised modelling and analysis, the company searches for and eliminates more qualified channel partners using Internet concepts in the big data era.

The company can use big data mining technology to plan marketing system channels, improve refined channel management, identify the advantages of customer groups from different channels, and continuously integrate

businesses with their vertical chains with many potential and strong capabilities. Sales channels have also gradually changed from pyramidal to flattening structures. Connotatively speaking, the company can quickly identify channel issues, optimise the layer-by-layer agent structure of channels, progressively create a self-centred channel network, strengthen the benefits of enterprise internal channels, and gain more marketing leadership by combining its marketing channels with its partners.

D. Enterprise Promoting Strategies Are Becoming More and More Diversified

One drawback of traditional marketing tactics is that they need to adequately present company marketing, which makes it difficult for the public to understand.

Successfully executing relationships is extremely expensive, yet the results are negligible. New advertising patterns and methods are urgently being established against the backdrop of big data.

Big data can assist the business in efficiently gathering, evaluating, and presenting information so that it can serve as the foundation for decisions about promotion. Big data network marketing has transcended conventional marketing methods' geographical and geological constraints. It can be used anywhere, anytime, and unifies the entire world. Because of these temporal and spatial shifts, the business must constantly modify its marketing tactics for twenty-four hours. Additionally, by using big data analysis, the company can precisely target people and use the right media outlets and marketing strategies to connect with them. Focusing on data should assist media and businesses in making decisions, converting the process of formulating decisions for promotion from an empirical to a scientific one, and ultimately maximising the promoting effect.

E. Big Data Forecasting Change of Political Environment Will Probably Become A Reality

The external political environment has a big impact on enterprise marketing. Some of the policies and intervening measures that different international governments have adopted that greatly impact enterprise marketing activities are import restrictions, taxation policies, price controls, foreign exchange controls, etc. Traditional market forecasting, a passive self-adjustment marketing technique based on the external political environment, primarily emphasises macro and micro policy analysis for political environment forecasting, while most data can even forecast political situation, policies and guidelines in one region in the future through collection, arrangement and analysis of political variable factors in society, based on which risk evaluation and profit forecasting about possibility of the enterprise entering one country or one regional market will be conducted.

F. How to Deal with Public Relations Between Enterprise and Customers Becomes Especially Important

Similar to the Internet era, when a crisis affects a single company brand, the Internet speeds up the spread of negative messages, necessitating a quicker response from the business than in the past and a more proactive, complex, varied, and wide-ranging mode of communication between the business and its clients. Thus, crisis management becomes more difficult to handle to prevent the crisis from spreading too widely. Therefore, to keep information open and transparent during PR management, the company should thoroughly and promptly gather, organise, and analyse data using pertinent big data technologies through a big data marketing model.

The company should communicate, research, and develop a marketing plan more quickly and proactively. Harmonious PR between the company and its clients should be developed to resolve unexpected public crises. This is important for enhancing the quality of PR services.

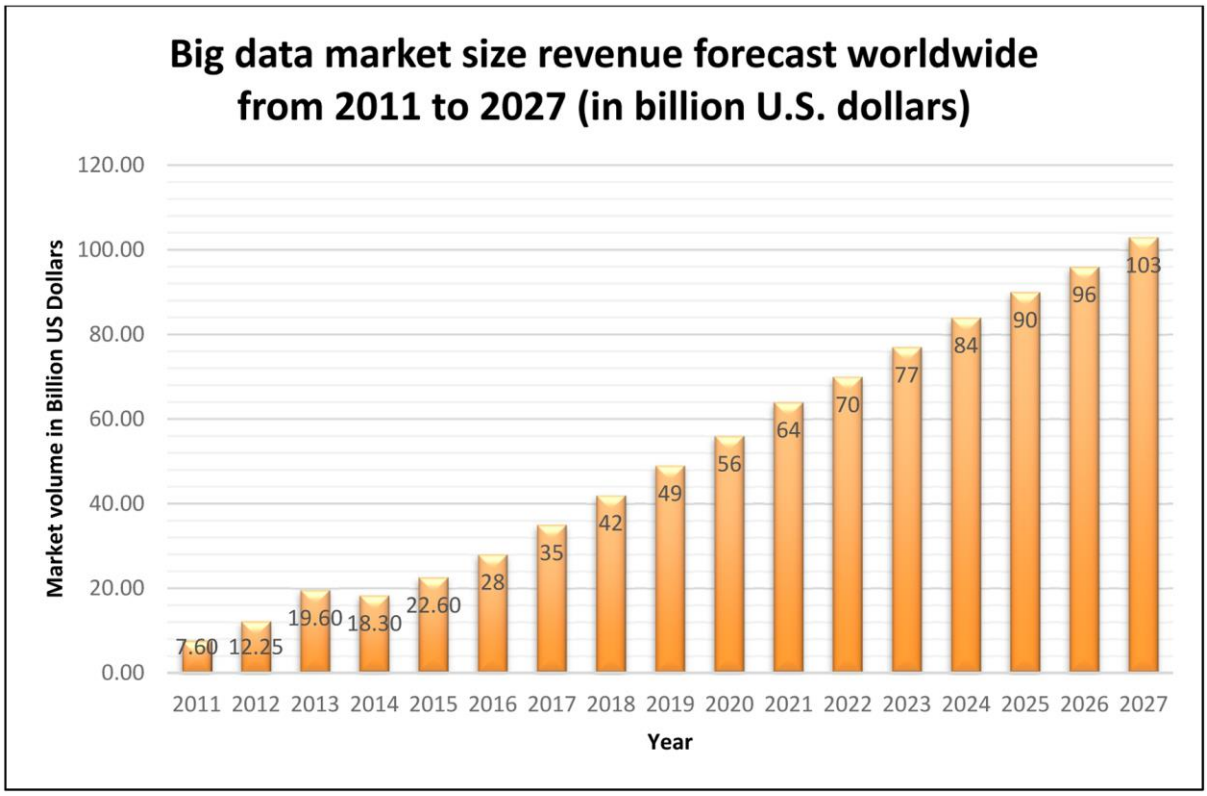

Fig. 1. Global Big Data Market Size and Revenue Forecast from the year 2011 to 2027 Source: https://www.statista.com/statistics/254,266/global-big-data-market-forecast/. Last accessed on September 05, 2023.

INNOVATION OF ENTERPRISE MARKETING MIX THEORY IN ERA OF BIG DATA

A. Take Comprehensive Consideration of Numerous Influencing Factors and Formulate Scientific Product Strategies

Following the emergence of the big data era, enterprise marketing product decision-making has transcended previous constraints in the enterprise information age.

By analysing the impact of different data on product strategies, the company should pay close attention to the many aspects that influence product strategies and thoroughly evaluate the chain change of pertinent business links that product decisions may bring about. Based on this, the company should restructure and optimise its operations and production processes and create a rational and scientific plan for creating and selling its products.

Domestic famous cell phone manufacturer MI has collected product demand information of consumers for cell phones, by taking young consumer groups (post-80s and post-90s) as target market, it continuously obtains price trend, functional requirements, interface optimization, user function experience and purchase evaluation and other important information of MI cell phones. And researched and developed MI series of cell phones have rapidly opened market among young people.

B. Use Big Data to Forecast Change of Political Environment of Enterprise Marketing

To develop strategies more suited for business marketing, the company can use big data theory to analyse certain political aspects that are currently in effect or may emerge in the future. An American statistician, Nate Silver, rose to fame after successfully predicting the US presidential election using big data. Many Chinese businesses may also use big data, a high-tech tool, to search for, forecast, comprehend, and even master macro policy trends in this region to a certain extent to mitigate enterprise operating risks brought on by shifting political environments in both domestic and international market competition. Then it can make scientific forecasting of import restriction, taxation policy, price control and foreign exchange control and other aspects, and then it can timely manage relationship with the local government, formulate flexible and suitable marketing strategies and lower risks occurring when the enterprise carries out external marketing activities.

Fig. 2. BD enabled Marketing 4.0 capabilities.

C. Use Big Data to Timely Deal with Public Relations between the Enterprise and Customers

Big data changes how the enterprise's PR is disseminated, particularly now that all kinds of mobile intelligent terminals are as common as large-scale.

The reality of socialised propagation brought about by networks has resulted in significant modifications to conventional public propagation tactics, regulations, content, and formats.

Online marketing, print advertisements, and PR operations are all interconnected and constantly converge during the enterprise's PR campaign. Big data can assist decision-makers in better understanding the core business of public relations, gaining insight into new regulations, and identifying new opportunities in the context of the corporate PR environment transformation.

CONCLUSION

Big data has significantly impacted theoretical studies and the real-world implementation of enterprise marketing decisions. Academic researchers and business managers alike should adapt to the times, inherit, and invent in several areas of marketing mix theory. Research on using big data for enterprise marketing management is still in its infancy, and many issues still require more discussion.

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