

Research on Marketing Strategy of Social Network Media Based on Big Data Analysis

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Abstract

In the rapid development of big data, the platform-based trend of Micro-blog, Wechat, Fetion, Wing talk and other social media is obvious. The instant interaction between client and website is realized; the social attributes are becoming more and more stable; the commercialization attributes as a marketing platform and the social attributes as the media are also significantly enhanced. The influence of the whole field of media marketing and even the whole information industry is growing gradually. In the marketing process of social media, whether when it comes to the marketing with event or the marketing with content, a wave of using the large data is prominent. In the big trend of rapid development of big data marketing and social media marketing, the marketing concept, marketing methods and evaluation of the results of enterprises begin to change. Social media marketing based on big data has subverted the traditional way of transmission for Internet advertising and it has become the new trend of enterprise marketing.

Keywords: *social network media, big data analysis, marketing strategy*

1. Introduction

The source of big data includes log on the website, sensor networks, social networks, Internet texts and documents, network search index, detailed callings records, astronomy, atmospheric sciences, genomics, biochemistry and other complex subjects (military surveillance, medical records, photographic archives and video archives) and so on. The data is generally divided into structured data and unstructured data. What is more, it is mainly classified into two categories. One is structured data and the other is unstructured data which accounts for 80% of company data. The data will increase by 60% exponentially every year. At present, only 1%~5% of the data is structured data [9]. Technically, the SQL has emerged which is mainly used to access to data; query, update and manage a relational database system. SQL scheme is usually used in DBMS; the other category is NOSQL which carries out analysis of data captured in distributed file system by simplification of mapping. The big data analysis which we have researched is mainly the unstructured data analysis based on NOSQL. There are two different ways to analyze and process big data. One is stream processing and the other is processing batch. The former one will stock the data before processing while the latter one will make prompt processing of data directly. The analysis chart of the two data [7] is shown in Figure 1.

Stream processing will make prompt response to process the data with the feedback being carried out at the same time after the server receives the data. It is rapider than the traditional MapReduce and it is able to use the value of data in real time so as to avoid value loss brought by delayed processing of data after being accumulated and stocked. At the present, stream processing is mainly used for real-time statistics of the number clicks on pages, the real-time transaction data with high frequency in financial industry, network data of sensor and other fields which require network server to response in real time. Stream processing is a more practical method to interpret large data, as the typical

characteristics of the era of are big data traffic, fast data transmission speed, big value of data, therefore, the data must be processed in real time so as to make full use of the value of them. What is more, a large amount of data is not good for storage. The purposes of real-time processing and analysis of large data are that: (1) enhance the ability of companies to make real-time decision-making; (2) improve operational efficiency; (3) discover new ideas and new business opportunities quickly and intelligently; (4) enhance the output of business; (5) enhance the overall IT utilization efficiency of corporations. The real-time analysis tools of big data are shown as the following Figure 2.

Distributed file systems Key value stores	MapReduce Solution	NOSQL Flexible Specialized Develioment
DBMS (OLTP)	ETL Extract-Transform-Load Data Warehouse	SQL Trusted Secure Administrated
ACQUIRE	ORGANIZE	ANALYZE

Figure 1. Two Kinds of Data Diagram

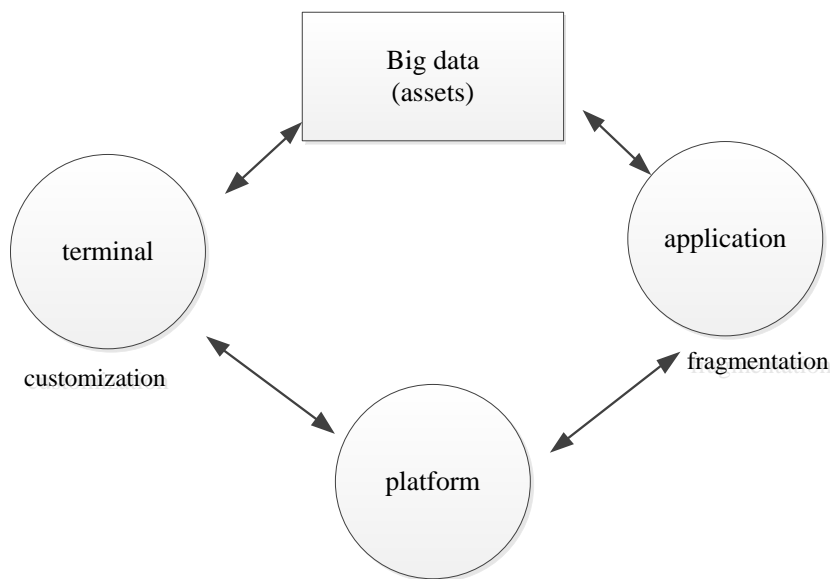


Figure 2. "The Trinity" the Internet Model

2. Big Data has Brought Marketing Changes for Social Media

Big data era is developing rapidly currently and the information industry based on "data" will also confront with more fierce competition and bigger opportunities. "In terms of data and terminal users", there are three advantages for the development of information industry: one: data has become the assets; two: the industry is integrated vertically; three: the Internet is generalized. The data has become asset with the strategic significance of it being highlighted; in terms of the vertical integration trend of the industry will be more close to users, more concerned about users so as to provide proper service for them by collecting a large amount of users' data in the aspect of data application; the

generalization of Internet is the first step to drive the flywheel effect of large data, as well as the crucial channel for collecting data. If there are no application software and hardware equipment of generalization of Internet, companies are hardly able to obtain the behavior data of users [5]. In the book “Historical Opportunity in the Era of Big Data--Industrial Transformation and Data Science”, the author sums up the “generalization of Internet” as the mode of “terminal”+ “application” + “platform” +“data” [6].

In the mode, the terminal characterized as moralization which is able to attract sufficient users with fast enough frequency of usage is the basis of fragmentation and long tail applications; the application is characterized as fragmentation, which will eliminate the contradiction between the standardized products of manufacturers and the personalized service required by the users so as to significantly reduce the overall cost of ownership of the users; the platform is formed cooperatively by commercial mode(the sharing mechanism for interests between partners) and application procedures(the technology framework of shared data for different applications) which carries the related products and service mechanism. In this way, it will not only realize the consistency and extension of self-owned underlying data architecture and technology architecture, but also meet the requirement of interest-sharing of the third party; the value of data will be presented and excavated sufficiently and the great development in the aspects of data acquisition, derivative services, design and development of guidance and application will be achieved. Obviously, the characteristics of Internet are moralization, fragmentation, platform and massive diversification. Social media marketing based on big data is to build a marketing platform with the social media being integrated, integrate the requirements of personalized application and achieve the value of data mining. It is also a large data development program which can be executed.

3. Big Data Leads the Precise Marketing of Social Media

3.1. System General

In the rapid development of big data, the platform-based trend of Micro-blog, Wechat, Fetion, Wing talk and other social media is obvious. The instant interaction between client and website is realized; the social attributes are becoming more and more stable; the commercialization attributes as a marketing platform and the social attributes as the media are also significantly enhanced. The influence of the whole field of media marketing and even the whole information industry is growing gradually. In the marketing process of social media, whether when it comes to the marketing with event or the marketing with content, a wave of using the large data is prominent. In the big trend of rapid development of big data marketing and social media marketing, the marketing concept, marketing methods and evaluation of the results of enterprises begin to change. Social media marketing based on big data has subverted the traditional way of transmission for Internet advertising and it has become the new trend of enterprise marketing.

3.1. It is Possible to Precisely Predict the Consumption Behavior

Big data technology realizes the query and mining of valuable data through the analysis of massive data sets so as to predict the consumption behavior of consumers. The use of social media has transformed the simple information acquisition about behavior of consumers to comprehensive Internet use behavior with consumption, creation and sharing being integrated. The social media records the online consumption of consumers so as to analyze and calculate the possible consumption demands of them by adopting big data technology.

3.2. The Marketing Strategy is Continuously Optimized

In terms of development status of Internet marketing at present, the traditional market strategy has been unable to fully adapt to the new market environment. With the advent of the era of big data, data acquisition and storage will grow exponentially; the proportion of cost of data analysis system in IT expenses is continuously increased and the general hardware and open-source software are adopted to continuously reduce the cost of large data analysis. Therefore, in order to get profit in the marketing environment of new media, it is necessary to innovate the business model and improve marketing insight of enterprise. In the past three years, after investigating 3300 marketing personnel, the Social Media Examiner, a well-known foreign research firm finds out that social media has been transformed from “an uncertain strategic preparation” in 2009 to “a fixed marketing tool” by 2010 then “the main marketing tool” in 2011.

3.3. Marketing becomes more Personalized

Social CRM has emerged with social media marketing. Collecting the behavior of users by social media will make more and more users' information be used to serve the marketing. Big data has further accelerated the process of MDM. Compared with the previous marketing in which the potential users' information is collected and managed by e-mail; it has developed into a market research tool. By registering email and free registration and binding of third-party IM software, market data, demographics data, data of sales trends and competitive data will be collected so as to provide sufficient data support for analyzing users' behavior by big data. The development of big data technology will make more data information be used by marketing subject. What is more, the enterprises are also able to use better analytical tools to segment consumers from a wide variety of dimensions so as to enhance the targeted marketing with the personalized marketing being achieved for segments, while the previous simple group marketing is discarded. What the big data brings is consumer segment which is more completed, more personalized and refined. With the in-depth mining and analysis of characters of each consumer, the social marketing will also become more personalized.

With the development of large data applications, we are able to perceive three trends:①games and advertising will not be able to fully support the way of life of people in the Internet and mobile Internet fields; nearly all of them will turn to network transaction; ② with the rapid development of mobile Internet and mobile devices, services of more industries will be personalized;③the increasing of mobile terminals and the social process of the media will bring huge amount of information and overload of data, the targeted demand for personalized service will be inevitably triggered.

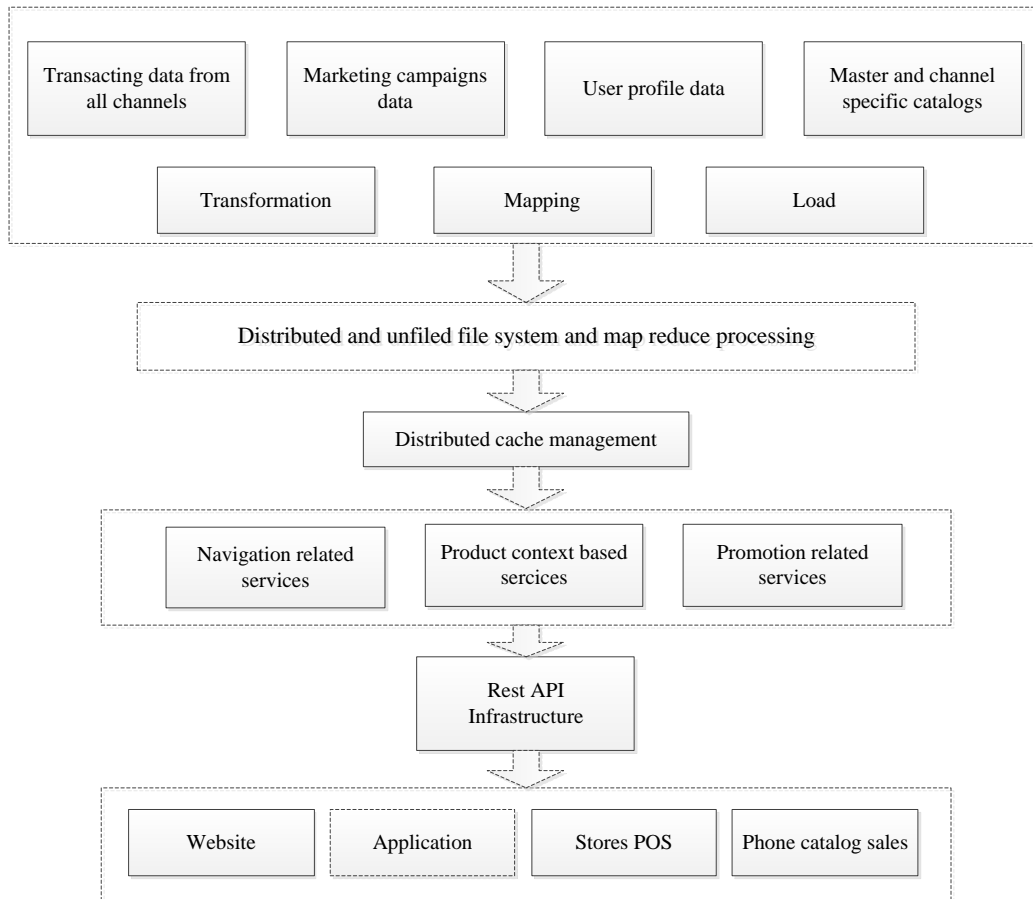


Figure 3. Big Data Marketing Process

Moreover, WAL-MART has developed a large data tool called Retail Link by which the suppliers can know the sales and inventory situation in advance in each store so that self-replenishment is realized before WAL-MART gives instructions, which can greatly reduce the situations of being short of supply and the overall inventory level of the whole supply chain. In this way, the cost of inventory and investment of display for merchandise within the store are reduced. WAL-MART has led the revolution of production efficiency in retail industry by sharing the big data in the whole supply chain.

4. Case Analyses of Social Media Marketing and Big Data Marketing

Consumers have moved seamlessly to the world of mobile social media where social computing and mobile computing will represent the next generation of applications trend which is centered by data. The obvious features of social media are vague definitions, fast innovation and “polymerization” of all the technology. Polymerization: it combines one or more contents together (or software, web sites) so as to play a part in the group; this is called polymerization. This is also one of reasons why the social media is so exciting, changing rapidly, but confusing. What is more, the reasons why the polymerization becomes possible are contributed to the openness of social media, the expectation of the website and software developers that people will innovatively use their service. Huang Xiaolan has ever put forward the point of view in “Social Sciences Research Boosted by Big Data” that we should analyze the complex network polymerization in the era of big data by referring to the catastrophe theory, chaos theory and complexity theory. According to the survey of the leading market research firm in the globe-eMarketer, shown in Figure 5, the number of users of mobile social networks will grow by two times

during 2010 to 2015, therefore the development trend of social media is unstoppable. In China, it is shown by survey of attitude of Chinese social media users by Kantar that the current social media users in China are mainly in three platforms as QQ space, Wechat and micro-blog. The above survey is shown in Figure 6-the social media types that Internet users have often used.

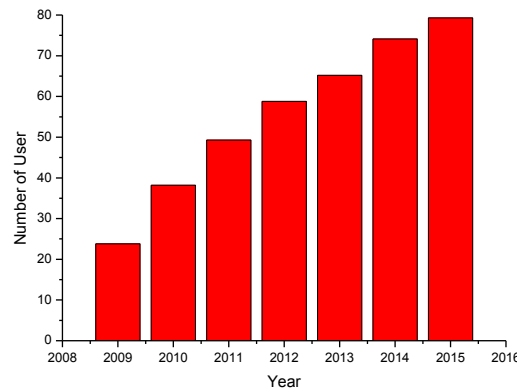


Figure 4. Mobile Internet Users in the United States

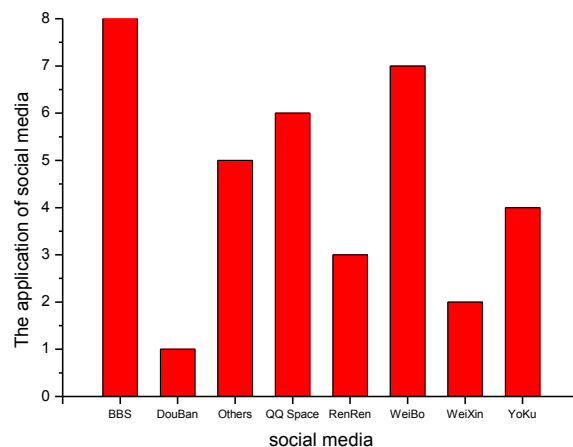


Figure 5. Often Use of Social Media Types for Internet Users

The paper is indented to discuss integrated social media marketing by taking the domestic Internet “rookie” enterprise- “Xiaomi”. The “Huang Taiji” is selected as an example to discuss micro-blog marketing. What is more, the demand and present situation of small enterprises which are engaged in social media marketing?

4.1. Marketing Case on Social Media by “Xiaomi”

In terms of the three mainstream business of “Xiaomi”, Mi phone is a mobile terminal, MiTalk is a social media tool and the MIUI is a bridge to connect hardware and software, mobile terminal and media tools, therefore, in its development mode, a completed business chain has been formed in which the social media users are attracted and adopted. In this way, the hardware of “Xiaomi” is developed, at the same time, the social media marketing is also carried out in user-centered way. It has set different products and functions according to the different demands and needs of users so as to sufficiently satisfy all the users in terms of social media with the one-stop marketing platform being built, as shown in Figure 6.

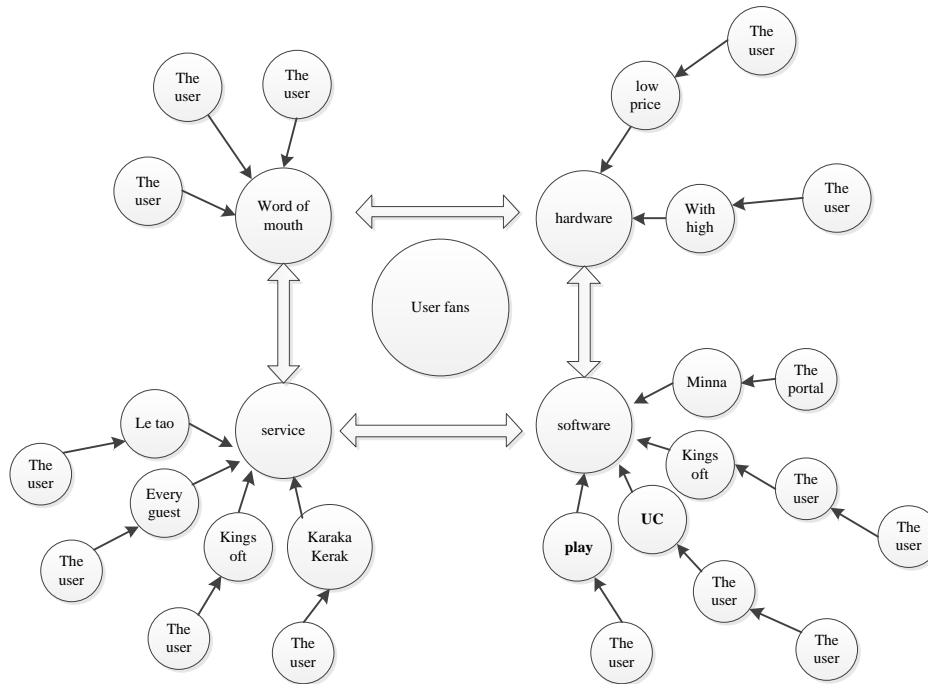


Figure 6. Millet Development Pattern

The three social media marketing camps of “Xiaomi” are: ① “Xiaomi” army which is a social media owned by itself and established by media resources of “Xiaomi” Mainly includes Micro-blog account of “Xiaomi”(“Xiaomi” Corp, “Xiaomi” mobile phone, “Xiaomi” television, “Xiaomi” box, “Xiaomi” communities, “Xiaomi” design, “Xiaomi” game center, “Xiaomi” app store, “Xiaomi” desktop, Lei Jun, Li Wanqiang, “Xiaomi” solution group, MIUI ROM, “Xiaomi” bar, “Xiaomi” fans club). Additionally, the social media marketing platform of “Xiaomi” includes “Xiaomi” community, “Xiaomi” official website, WeChat platform, Mitalk public account. ② Sina army is a social media marketing account bought by “Xiaomi” in for short term use. They will continuously forward all the activities of the company’s accounts during a period of activities. The main Micro-blog account of Sina includes: Micro-blog customer service, micro-blog for mobile phone, assistants of micro group, blackboard of activities, club of micro-blog for mobile phone, micro-blog location, micro disk, micro data, micro-blog wallet and so on. ③ The grassroots large army whose main role is to increase the interest of “Xiaomi” marketing activities so as to narrow the distance between “Xiaomi” and fans. Its micro-blog account includes: cold jokes, micro-blog funny list, ranking of heated events in the globe, constellation and love 100, the most popular event in the history, constellation secret, global odds and ends, true words, being pregnant if laughing too much, horoscope wizard and constellation and so on. In the social media marketing activities of “Xiaomi”, nearly all the social media purchased, self-owned social media and the acquired social media take part in it in real time and update information accordingly, which leads customers to the official website of “Xiaomi” which is “F code reservation”. After that, the hungry marketing is made so as to expand its influence on the network. Obviously, “Xiaomi” has built a powerful social media marketing platform form the perspective of hardware, software, services, and word of mouth with the users’ demands and experience as the center.

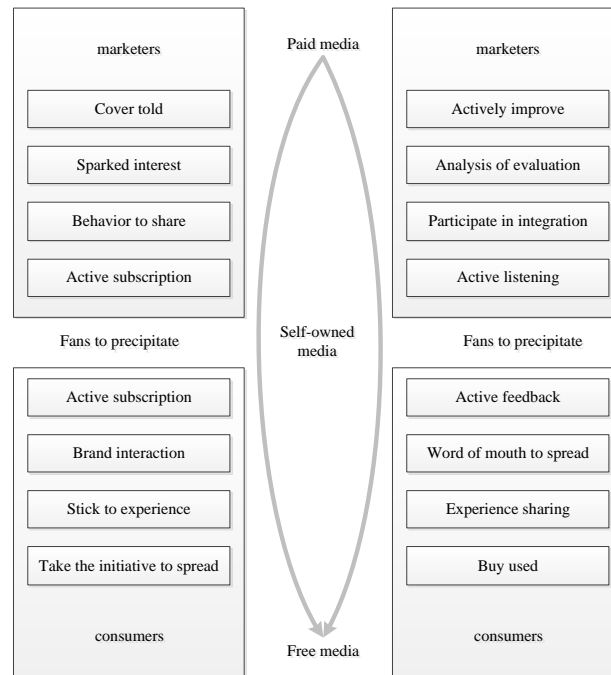


Figure 7. Weibo Marketing Model

4.2. Micro-blog Marketing Case of “Huang Taiji”

In 2012, Huang Taiji pancake shop was opened in Beijing. One year later, its market value was estimated as 40 million and it has become the fastest-growing traditional catering enterprise. There are three features of marketing case of “Huang Taiji”: focus on key events and highlight on itself; ② use the hot events in mechanism to promote itself; ③strengthen its characteristics and manifest itself. The marketing of Huang Taiji just depends on social media marketing platform-micro-blog of Sina, therefore, it is the successful case of micro-blog marketing. The micro-blog account of “traditional food of Huang Taiji” is the main battle field of it. Its marketing strategies include ①creating the unique topics and perspectives, such as the characterized slogan as “thinking about your life when eating pancake and tofu curd in our shop” and “all the hamburger, pizza are paper tiger” . There is also characterized tag on the packaging of its food, such as “we are northeasterners” and so on; ② it tells the unique story to interact with the consumers, such as “experience of He Chang since 22 years old” , “legendary shop of legendary boss” , “deliver takeaway by driving Benz” , “this is the most famous pancake shop in CBD, Beijing” and so on; ③ the topic created will attract audience attention, such as “beautiful boss”, “strategies of anti-fining and anti-photographing for parking in front of shops”, “show the highest record of takeaway” and so on.

The social media represented by micro-blog has brought innovation of marketing model, so marketing will no longer be restricted by one-way transmission from marketer to consumers. It is developed into two-way interaction of “double funnel type”. Brands are able to accumulate loyal fans on the media of their own which is operated by them when the traditional paid media is used by them. Then, the accumulated fans will be transformed into assets of their own so as to realize active transmission of the brand. Finally, it will become the “free media” for the brand.

5. Conclusions

In the era when “data is the key”, the ones who are able to obtain data, use data effectively will catch the opportunities and advantages. Research on social media marketing under the background of big data is just carried out based on such core concept.

According to the results of application research of big data in social media marketing, this paper draws the following conclusions:

Firstly, the social media marketing has obvious advantages compared with the traditional one. Big data marketing of Social media has a huge hidden commercial value which is to be studied academically and mined for its business value.

Secondly, the update of generation mechanism of media content requires the enterprises to keep up with the development trend of social media marketing and actively establish a social media marketing platform with large data technology as the support.

Thirdly, the corporations should also systematically study the generation, storage, processing and utilization of large data and sufficiently utilize analysis method and technology of big data, which will provide reference for implementing precise marketing in social media.

Fourthly, big data marketing of social media will be the inevitable trend of the future development of the Internet economy.

References

- [1] D. Lei, “An advertising analytics framework using social network big data”, 2015 5th International Conference on Information Science and Technology, ICIST, (2015), pp. 470-475.
- [2] L. Jiang, “Optimization of the network marketing mode of China's luxury goods”, WIT Transactions on Modelling and Simulation, vol. 60, no. 3, (2014), pp. 297-304.
- [3] B. L. Robert, “Viral geofencing: An exploration of emerging big-data driven direct digital marketing services”, Portland International Center for Management of Engineering and Technology, Proceedings: Infrastructure and Service Integration, PICMET, (2014), pp. 3300-3308.
- [4] S. Pal, “Big data-driven marketing: How machine learning outperforms marketers' gut-feeling”, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), vol. 83, no. 93, (2014), pp. 367-374.
- [5] C. Eugene, L. J. Martin and L. Boying, “Predicting consumer product demands via Big Data: the roles of online promotional marketing and online reviews”, International Journal of Production Research, vol. 23, no. 2, (2015), pp. 236-239.
- [6] X. Wang, A. Yingbo and J. Rong, “Application and analysis of fuzzy neural network algorithm based on cloud computing platform in enterprise network marketing”, Chemical Engineering Transactions, vol. 46, no. 23, (2015), pp. 403-408.
- [7] D. Lei, “Building a big data analytics service framework for mobile advertising and marketing”, Proceedings - 2015 IEEE 1st International Conference on Big Data Computing Service and Applications, BigDataService, (2015), pp. 256-266.
- [8] K. K. Youn, “Business intelligence and marketing insights in an era of big data: The q-sorting approach”, KSII Transactions on Internet and Information Systems, vol. 8, no. 2, (2014), pp. 567-582.
- [9] K. Vasileios and P. Symeon, “A hyperbolic space analytics framework for big network data and their applications”, IEEE Network, vol. 30, no. 1, (2016), pp. 11-17.
- [10] M. Xin, “The opportunity and challenge of big data's application in power distribution networks”, Dianwang Jishu/Power System Technology, vol. 39, no. 11, (2015), pp. 3122-3127.
- [11] S. G. Young and C. Youngjoon, “Inter-category map: Building cognition network of general customers through big data mining”, KSII Transactions on Internet and Information Systems, vol. 8, no. 2, (2014), pp. 583-600.
- [12] B. Rami, “Exploring big data environment for conversation data analysis and mining on microblogs”, Advances in Intelligent Systems and Computing, vol. 407, no. 12, (2016), pp. 335-346.
- [13] L. C. Hong and C. T. Feng, “Leveraging microblogging big data with a modified density-based clustering approach for event awareness and topic ranking”, Journal of Information Science, vol. 39, no. 4, (2013), pp. 523-543.
- [14] Z. Guan, “Innovation of enterprise profit patterns based on Big Data”, 2015 International Conference on Logistics, Informatics and Service Science, LISS, (2015), pp. 30-45.

