Touchpoint Marketing System Design among Operators

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Abstract. This paper analyzes the demand of telecommunications operators about use and value of big data, and by referring to the Internet thinking and combining the advantages of multi-channel contact marketing of operators, this paper proposed the idea of big data contact marketing system. This paper described the process of building the system of big data contact marketing under the environment of operators on the basis of multi-domain data management, client profile labelling, multi-channel integration and contact marketing. Last, this paper introduces the realization situations of the big data contact marketing system, and analyzes the prospect of its value and future development.

1. Introduction
Chinese and international telecommunications operators nowadays are now facing challenges of "channelization", and Internet OTT business is displacing traditional businesses including voice and instant messaging, and competitions among operators is intensifying. In face of competition from within and outside of the industry, operators need to make innovation and reform their operations, and explore new growth points in the Internet era.

To adapt to the requirements of the time and the trend of industry development, telecommunications operators need to explore the value of big data, conduct refined operation of flow, and improve user experience with customized services. Also, by collecting data in the operating process, including the clients' basic information, communication data, network data and location data, telecommunications operators need to adopt Internet thinking, process data, use algorithmic models, and build multi-channel and multi-dimensional contact marketing systems.

2. Big data touchpoint marketing system design
The big data system generally consists of modules of data collection, statistical calculation, data service and data utilization. Basic use of big data in the operator environment means collecting multi-dimensional user information to create and analyze user features, develop refined user groups by data processing, and create proper situations and timing to recommend proper content to target clients through proper channels.

2.1. Overall structure
As Figure 1 shows, the big data contact marketing system consists of four modules: data collection, data processing, situation output and contact operation. Each module interacts with each other, and realizes flow transfer from original data processing to channel and contact marketing. Feedback analysis of backward data should also be analyzed to build the closed-loop iteration optimization process.
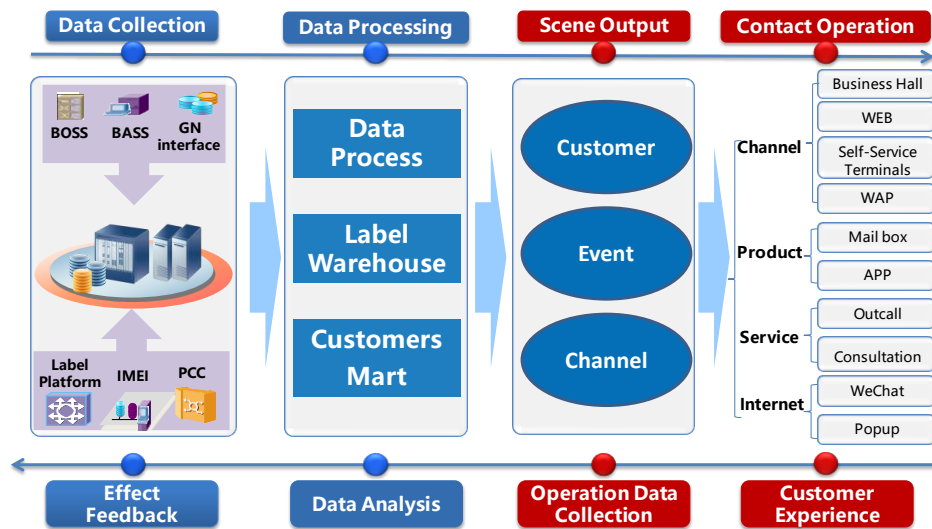
Figure 1. Big data contact marketing system

2.2. Data collection, integration of multi-dimensional data

The data collection module should collect, store, manage and extract data in an efficient, fast and stable manner. As the foundation of big data analysis, the module should have the function of data collection, data center and data management. The basic technologies include data collection, data pre-treatment, distributed storage, database, parallel computing and visual categorized management.

Figure 2 shows that the module needs to connect multi-domain data and have the ability to collect and process integrated data. It should also have the ability to resource pool management and data output service. It classifies the data by location, socializing and preference, sorts the user behavior data produced online, and prepares for further data mining.
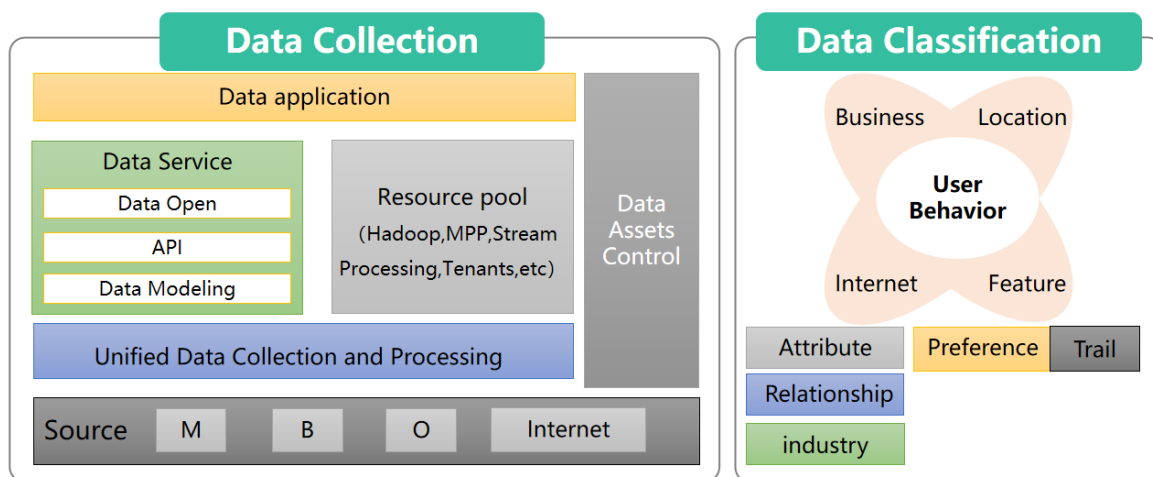

Figure 2. Multi-dimensional data integration

2.3. Data processing, building user labels

According to the data characteristics of operators and by referring to the Internet mode, this paper selects the eight most valuable labels: basic information, business feature, consumption feature, terminal feature, marketing preference, channel feature, customer service preference, and Internet.

With these eight labels, this paper makes more classification of users, explore the clients, information including their consumption needs, content preference, occupation, residence, and families, and realize transformation the idea of client from a "fuzzy group" to "accurate individuals".

As Figure 3 and Figure 4 show, by creating the user label system, operators can create multiple labels and accurately identify the client group according to product features. On the other hand, they can output user profile and recommend customized products to users according to the users, characteristics. Meanwhile, operators should have the ability for integrated calculation and aggregated output of label data to provide strategies for contact marketing.
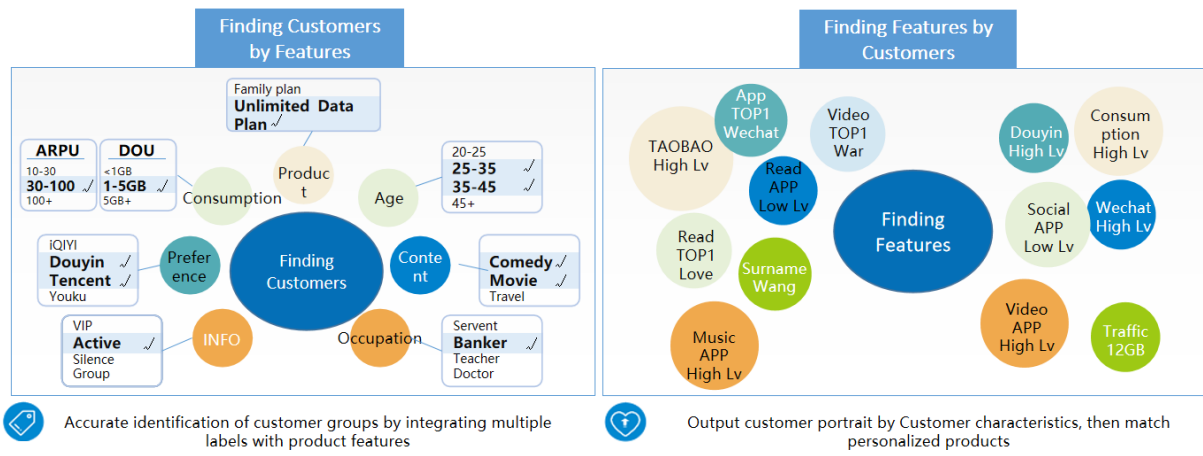

Figure 3. Identifying client group

Figure 4. Client profile

2.4. Situation output, allocating marketing strategies

The marketing strategies and product specification of traditional operators are relatively monotonous and direct, so if the user labelling system is complete, the operators should take the clients as the center, combine standard marketing data, establish an integrated and closed-loop marketing strategy-matching process, and create the situation output model.

As Figure 5 shows, the strategy matching process involves five steps: demand mining, client group identification, channel distribution, parallel processing and effect evaluation. The operators will make backward analysis of the marketing result data, make iterative optimization of strategic matching, and realize the closed-loop process. This process will fully utilize the value of user labels, design marketing strategies with information of user attributes, product content, contact channels, and contact timing, to prepare for further contact coordinated marketing.
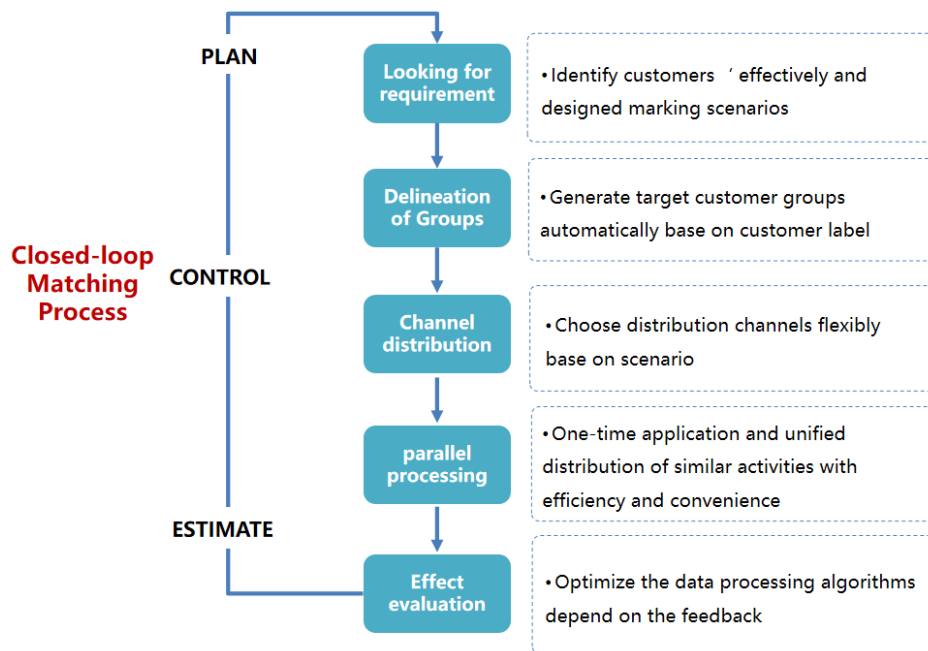
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Figure 5. Strategy matching process

2.5. Contact marketing, multi-channel coordination

With the support of big data, client insight and situation marketing, operators should have coordinated access management of all channels and recognize the best marketing contact. They should also grasp marketing chances and realize real-time marketing by recognizing client behaviors. Thorough diverse marketing forms including texts, images, links, H5 and smart messages, operators should improve their skills of smart marketing, guarantee customized marketing content, and conduct multi-contact and multi-wave-picking marketing strategies, as Figure 6 shows.
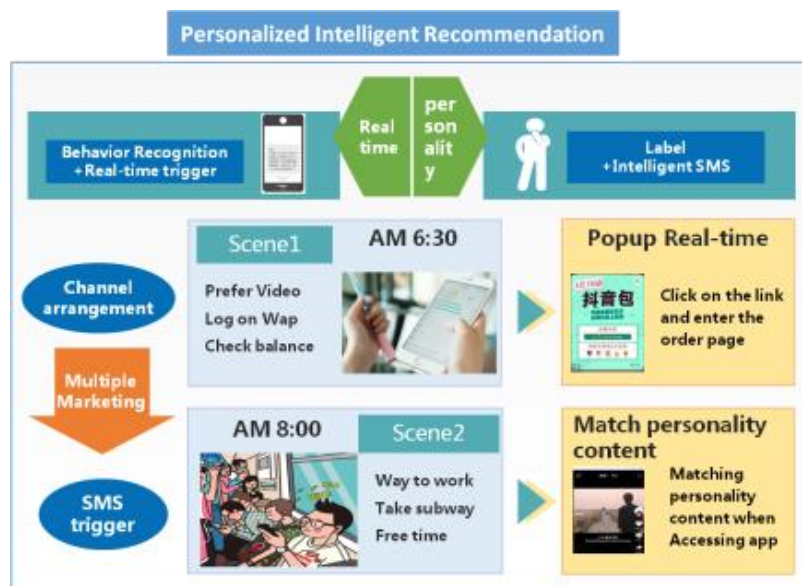

Figure 6. Customized recommendation

3. Application scenarios of big data contact-marketing by operators

3.1. Terminal scenarios
It is necessary to create labels of clients' terminal preference, terminal attributes, device-changing frequency and information of previous devices to analyze the client's characteristics in using devices. By using the channel preference label, operators can conduct multi-dimensional marketing including pop-ups and messages, and promote devices consistent with the clients' consumption level.

3.2. Bandwidth scenario
By using labels including user night-time flow consumption, station location of night-time frequency, and bandwidth covered community, operators can build a bandwidth client group model, select client numbers that have high night-time consumption and those in communities within the range of frequency stations and capable of access to bandwidth. By active outbound marketing and launching popups at contacts with high-frequency visits, operators can attract these clients to use bandwidth services.

3.3. Content scenario
Operators can analyze the user's online behaviors and identify their preferred types of products, such as video-sharing webs like Youku, Iqiyi and Tencent Video, or audio apps like Ximalaya or Xiami music. On that basis, operators can recommend benefit packages that offer VIP rights to other products or oriented traffic to certain products. When the user opens an app, instant messages or marketing popups are released to the user to simulate the package subscription page.

4. Conclusion
Building the big data contact marketing system can alleviate the problems of traffic liquidity and channel integration that have long haunted telecommunications operators. With the operator's number ID as the center, operators can create labels for their clients, convert underlying data into client profile, realize customized recommendation of products, attract users to buy recommended products. Moreover, by integrating multiple channels and using multi-wave-pick marketing strategies, operators can build mobile, segmented and scenarioized marketing environments, and according to the recommendation effect and effect evaluation results, adjust the product recommendation rules, improve recommendation accuracy, and realize direct marketing to potential users so as to improve the buying rate of target client groups.

To look forward, there are issues to consider to promote further development of the big data contact marketing system. First, how to strike a balance between mining data value and protecting user privacy is a problem that operators must find a solution for. On the other hand, how to help them select valuable information from irrelevant information and avoid aversion among the users is another challenge for operators when designing marketing strategies.

References

[1]   Vaidas Lukosius,Michael R Hyman. MARKETING THEORY AND BIG DATA[J]. The Journal of Developing Areas,2019,53(4).
[2]   Jihad Saidali,Hassane Rahich,Yassine Tabaa,Abdellatif Medouri. The combination between Big Data and Marketing Strategies to gain valuable Business Insights for better Production Success[J]. Procedia Manufacturing,2019,32.

[3]   Patrick Poon,Gerald Albaum. Consumer Trust in Internet Marketing and Direct Selling in China[J]. Journal of Relationship Marketing,2019,18(3).

[4]   Shu-Hui Chuang. Facilitating the chain of market orientation to value co-creation: The mediating role of e-marketing adoption[J]. Journal of Destination Marketing & Management,2016.

[5]   Xionghui;Lishiming;Lanyong.Research on Marketing Channel of Mobile Manufacturer Based on Analytic Hierarchy Process[J].Journal of Electronic Science and Technology of China,2006(04):434-437+442.

[6]   Torsten J. Gerpott,Phil Meinert. Not just every user of mobile music streaming shares the same characteristics: A classification analysis of mobile network operator subscribers in Germany[J]. Telematics and Informatics,2019,41.