

MINING SOCIAL NETWORKS FOR BUSINESS COMPETITION ANALYSIS

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Abstract— Success in Business is defined by how attractive and appealing a product of certain business appears to a customer than its competition. How can one a competitor with less business compete with any business in a similar market segment? Check where the product your lacks and where the competitor's product has an upper hand. Though in the competitive world to sustain a business a lot of efforts have to been taken but not much of research is undertaken in this field. In this paper, we present how we can enlist our competitor's strengths to use them in any business in a field and make it better when compared to that business. We use many online reviews from various websites and online sources along with abundant sources of information that can be found from multiples range of domains. We then analyze the data and provide quality insights about the data which can be used in decision making. These insights can be used to analyze how scalable our approach tends to be for various kind of projects along different domains.

Keywords— Data Mining, Data Analysis, Competitor Mining

I. INTRODUCTION

Business rivalry is a challenge or competition between firms to win income. It is a major financial power that benefits clients as firms are feeling the squeeze to always enhance items and offer alluring costs.

Things that play a vital role in order to have an upper edge over competitor:

1. Items and Services: The highlights and nature of items and administrations. For instance, sunlight-based boards that have a higher vitality change rate might be favored by clients.
2. Client Experience: The immaterial components of items and administrations, for example, industrious client benefits at a lodging.
3. Comparative Costing: Comparative items and administrations ordinarily contend seriously on cost. Firms with prevalent items and administrations according to clients might have the capacity to charge premium costs.
4. Lower Unit Price: A maker with lower unit expenses can contend on the cost to drive rivalry out of the market. On the other hand, a maker with lower expenses can put resources into their business to

make prevalent items and client benefit. In any case, a lower unit cost will, in general, be a critical preferred standpoint.

5. Brand Awareness: Clients tend to pick items and administrations they know or that they perceive. All things considered, building up and continuing brand mindfulness is an essential kind of rivalry.
6. Deals: A business compels that can bring deals to a close can be a noteworthy upper hand in enterprises, for example, business-to-business administrations.
7. Area: Area-based rivalry, for example, the main bistro at an airplane terminal.

Aggressive benchmarking is the way toward looking at your items, administrations, procedures, and practices to an immediate contender utilizing standard estimations. This might be done to assess your current aggressive position, create systems and assess execution. Coming up next are normal kinds of focused benchmarking:

1. Figure of Merit: A figure of legitimacy is an item metric that clients think about when making a buy. These regularly fill in as normal benchmarks that all rivals in an industry work to progress. For instance, cost per watt is a figure of legitimacy for sun-powered boards.
2. Budgetary Results: Utilizing the budgetary reports of contenders to assemble money related execution measurements, for example, income per worker.
3. Operational Metrics: Working measurements might be accessible in a company's showcasing interchanges. Then again, industry advisors or statistical surveying firms may offer evaluations. For instance, firms may analyze the vitality proficiency of their server farms against best in class results.
4. Showcasing Metrics: Showcasing measurements, for example, mark acknowledgment and best of the psyche are regularly accessible for an industry.

5. Deals: Deals groups may benchmark things, for example, client securing cost and gross edges against a nearby contender.
6. Client Service: Administration enterprises are regularly benchmarked utilizing consumer loyalty with such information freely gathered by statistical surveying firm
7. Client Experience: A firm may benchmark immaterial components of administrations, for example, the essence of sustenance against a nearby contender.

II. LITERATURE REVIEW:

George Valkanas, Theodoros Lappas, and Dimitrios Gunopulos[1] introduced a formal meaning of aggressiveness/competitiveness between two things, which was approved both quantitatively and subjectively. They considered various variables that have been to a great extent neglected before, for example, the situation of the things in the multi-dimensional element space and the inclinations and suppositions of the users, their work presents a technique for mining such data from substantial datasets of client surveys.

Deng, Shiguang, Longtao Huang, Guandong Xu, Xindong Wu and Zhaojun Wu[2] There can be different sources through which clients can give the audits of a specific item. These papers help in examining how reliable the surveys are!

Qingchao Kong , Wenji Mao , Guandan Chen , Daniel Zeng[3] In this paper, the fundamental spotlight is on prevalence advancement of online substance and address the issue of PSP. An endeavor to tackle this issue by considering the dynamic parts of fame advancement at two dimensions.

Zhao, Guoshuai, Xueming Qian and Xing Xie[6] propose a client benefit rating forecast approach by investigating clients' evaluating practices with considering four informal community factors: client individual premium (identified with client and the thing's themes), relational premium closeness (identified with client premium), relational rating conduct likeness (identified with clients' appraising propensities), and relational rating conduct dissemination (identified with clients' conduct dispersions).

Hua, Wen, Zhongyuan Wang, Haixun Wang, Kai Zheng and Xiaofang Zhou [5] in this work, they propose a summed up system to see short messages adequately and effectively. All the more explicitly, they separate the assignment of short content comprehension into three subtasks: content division, type recognition, and idea naming.

The main research gap of the Frameworks developed till now have to bolster for examination of up to 2 organizations. We plan to make a framework that underpins the examination of multiple organizations. The principal issue in mining contenders from online information is the absence of dependability in online audits. We have no power over the approaching audits, so we mean to gauge this defect and frame a procedure that can check the validness of a survey. An individual who has 10 surveys and has evaluated an organization as 1star for its specific administration then that audit of individual will be considered when contrasted with an individual who has just 1 audit and has given 5star for an administration. This may prompt less one-sided results, what is drifting can be investigated while making suggestions as there might be new administrations who are great and satisfy all the client's necessities and can create quality clients encounter, very little is investigated in this field.

III. PROPOSED SYSTEM:

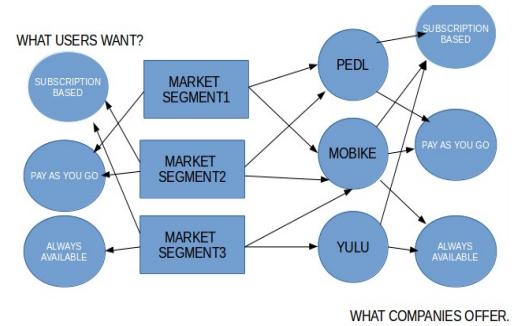


Figure 1 Proposed System

We propose another formalization of the intensity between at least two things, in view of the market portions that they can both covers. The above proposed system is drawn by taking into consideration Bicycle ride sharing services i.e. we are planning to analyze all the competitors in Bicycle ride sharing service. We depict a strategy for processing every one of the sections in a given market dependent on mining expansive survey datasets. This technique enables us to operationalize our meaning of intensity and address the issue of finding the best k contenders of a thing in some random market. As we appear in our work, this issue presents noteworthy computational difficulties, particularly within the sight of extensive datasets with hundreds or thousands of things, for example, those that are frequently found in standard areas. We address these difficulties through an exceptionally adaptable system for top-k calculation, including an effective assessment calculation and a suitable list.

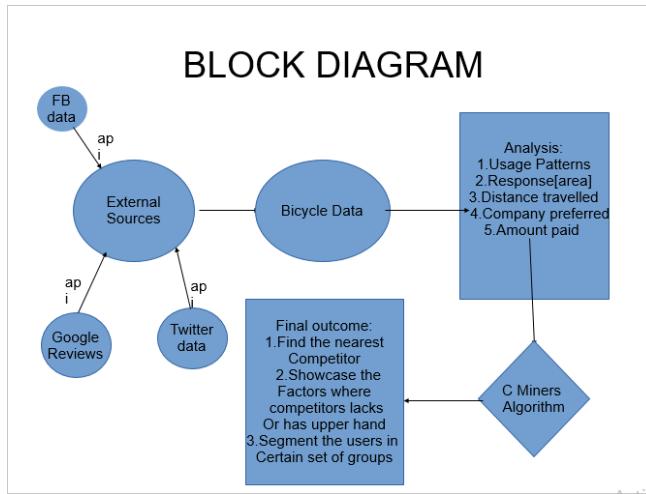


Figure 2 Block Diagram

As shown in the block diagram above we intend to find the data (bicycle or bike sharing data in our case) using Facebook, Google and Twitter api. The gathered data will comprise of parameters like Usage Patterns, response, distance travelled, Company preferred, amount paid. The above parameters will be used and C miner's algorithm is used on the same to find the final outcome and summarize the outcome for decision making.

ADVANTAGES OF PROPOSED SYSTEM:

To the best of our insight, our work is the first to address the assessment of aggressiveness by means of the examination of vast unstructured datasets, without the requirement for direct similar proof. A formal meaning of the intensity between at least two things, in light of their intrigue to the different client portions in their market. Our methodology conquers the dependence of past work on rare similar proof mined from a content. A formal system for the distinguishing proof of the diverse kinds of clients in a given market, and in addition for the estimation of the level of clients that have a place with each sort. A profoundly adaptable **system for finding the top-k contenders of a given thing in extensive datasets.**

IV. CONCLUSION

A formal meaning of the intensity between at least two things, in light of their intrigue to the different client fragments in their market. Our methodology defeats the dependence of past work on rare similar proof mined from the content. A formal procedure for the distinguishing proof of the distinctive kinds of clients in a given market, and additionally for the estimation of the level of clients that have a place with each sort. An exceptionally adaptable system for finding the best k contenders of a given thing in substantial datasets. The future degree makes the framework, much increasingly, better by thinking about a lot more factors with the end goal of the investigation. There might be different increments that should be possible to the present framework that can empower it to be

actualized on any organizations or conditions for contender investigation purposes.

V. FUTURE WORK :

Upon successful implementation of competitive analysis between 2 or more companies working in Bicycle Sharing services the same can be tested with businesses in various domains and accuracy of the same can be tested.

VI. REFERENCES :

- 1) George Valkanas, Theodoros Lappas, and Dimitrios Gunopoulos, “Mining Competitors from Large Unstructured Datasets”, IEEE Transactions on Knowledge and Data Engineering, 2017.
- 2) Deng, Shuiguang, Longtao Huang, Guandong Xu, Xindong Wu and Zhaohui Wu. “On Deep Learning for Trust-Aware Recommendations in Social Networks.” IEEE Transactions on Neural Networks and Learning Systems 28 (2017): 1164-1177.
- 3) Knowledge.” IEEE Transactions on Knowledge and Data Engineering 29 (2017): 499-512.
- 4) Zhao, Guoshuai, Xueming Qian and Xing Xie. “User-Service Rating Prediction by Exploring Social Users’ Rating Behaviors.” IEEE Transactions on Multimedia 18 (2016): 496-506.
- 5) Qingchao Kong, Wenji Mao, Guandan Chen , Daniel Zeng “Exploring trends and patterns of popularity stage evolution in social media.” IEEE Transactions on Knowledge and Data Engineering, 2018
- 6) Hua, Wen, Zhongyuan Wang, Haixun Wang, Kai Zheng and Xiaofang Zhou. “Understand ShortTexts by Harvesting and Analyzing Semantics
- 7) B. H. Clark and D. B. Montgomery, “Managerial Identification of Competitors,” Journal of Marketing, 1999.
- 8) M. Bergen and M. A. Peteraf, “Competitor identification and competitor analysis: a broad-based managerial approach,” Managerial and Decision Economics, 2002.
- 9) R. Li, S. Bao, J. Wang, Y. Liu, and Y. Yu, “Web scale competitor discovery using mutual information,” in ADMA, 2006.
- 10) G. Pant and O. R. L. Sheng, “Avoiding the blind spots: Competitor identification using web text and linkage structure,” in ICIS, 2009.
- 11) D. Zelenko and O. Semin, “Automatic competitor identification from public information sources,”

International Journal of Computational Intelligence and Applications, 2002.

- 12) R. Decker and M. Trusov, "Estimating aggregate consumer preferences from online product reviews," International Journal of Research in Marketing, vol. 27, no. 4, pp. 293–307, 2010.
- 13) E. Marrese-Taylor, J. D. Velásquez, F. Bravo-Marquez, and Y. Matsuo, "Identifying customer preferences about tourism products using an aspect based opinion mining approach," Procedia Computer Science, vol. 22, pp. 182–191, 2013.
- 14) C.-T. Ho, R. Agrawal, N. Megiddo, and R. Srikant, "Range queries in olap data cubes," in SIGMOD, 1997, pp. 73–88.
- 15) D. Gunopoulos, G. Kollios, V. J. Tsotras, and C. Domeniconi, "Approximating multi-dimensional aggregate range queries over real attributes," in SIGMOD, 2000, pp. 463–474.
- 16) S. Bao, R. Li, Y. Yu, and Y. Cao, "Competitor mining with the web," IEEE Trans. Knowl. Data Eng., 2008.
- 17) Y.-L. Wu, D. Agrawal, and A. El Abbadi, "Using wavelet decomposition to support progressive and approximate range-sum queries over data cubes," in CIKM, ser. CIKM '00, 2000, pp. 414–421.
- 18) C. W.-K. Leung, S. C.-F. Chan, F.-L. Chung, and G. Ngai, "A probabilistic rating inference framework for mining user preferences from reviews," World Wide Web, vol. 14, no. 2, pp. 187–215, 2011.
- 19) K. Lerman, S. Blair-Goldensohn, and R. McDonald, "Sentiment summarization: evaluating and learning user preferences," in ACL, 2009, pp. 514–522.
- 20) Z. Ma, G. Pant, and Sheng, "Mining competitor relationships from online news: A network-based approach," Electronic Commerce Research and Applications, 2011.