

THE USE OF CALL ANALYTICS IN BUSINESS DEVELOPMENT; APPLICATION OF BUSINESS, MARKETING AND ARTIFICIAL INTELLIGENCE

Reza Mousavi

alpha.2006m@gmail.com

Sama Sohrabi Tabesh

PBXDom

samaneh@pbxdom.com

ABSTRACT

The artificial intelligence focuses on the learning behaviors of human on any specific issue and develop intelligent systems for tackling the issues in future. The call analytics is technique of artificial intelligence that is now being adopted in business and especially the marketing. This study has focused on the implications and applications of call analytics in business. Moreover, it aligned it with artificial and marketing intelligence. Due to qualitative nature of this research, the data were gathered from secondary sources including books, journal articles, conference articles and online sources. The results of this research highlighted that call analytics is now significantly used by marketers and the companies must adopt this application of intelligence system to formulate effective marketing strategies. This concept of call analytics is least researched in area of marketing and researchers should consider it literary discussions.

Keyword: Call Analytics; Business Intelligence; Artificial Intelligence; Marketing Communication.

1. INTRODUCTION

1.1. Background

The 21st century is called era of globalization, development, commercialization and

competition (Ali and Kaynak, 2000). In this era, it's difficult for companies to survive with old and traditional techniques because the change in business environment require the modification and alteration in many business process and even the strategies (Zeibote et al., 2019; Babenko et al., 2019). Therefore, the field of business has taken the new perspective of business intelligence. Similarly, the traditional marketing is shifted to digital marketing and artificial intelligence marketing (Kurniawan et al., 2014). The inclusion of business intelligence in marketing has changed totally changed the view of marketers and even the customers (Kim, 2014). Previously the marketers or business development managers use to gather the data manually and there was no proper database for on time and effective utilization of data (Burns and Bush, 2000). The marketers are always keen to gather the useful data systematically so that it can be converted into information (Rowley, 2016). Thus, while using the application of business intelligence, the marketers are focusing on call analytics now a days.

1.2. Evolution of Business and Marketing Intelligence

Kotler and Keller (2012) defined marketing as the most important element to meet the customers' needs by using series of activities including planning, promoting and distributing the services or goods. In addition, marketing is essential to identify and meet social or human needs. Therefore, the marketing can be concluded as the

“meeting needs profitably”. In the context of marketing, the marketing communication is most essential to grab the better market share, this method is divided in two categories, one is direct marketing and other is indirect marketing. The strategy of indirect marketing involves the promotion of the services or promote by touching the mind or feelings of customers indirectly. This indirect way includes the interactive marketing and corporate social responsibility (CSR). Whereas, in direct marketing, marketers use advertisements to generate multiple customer responses (Tjiptono, 2008) and most common form of direct marketing is telemarketing (Saladin, 2006) which is now systemized by the call analytics.

The call analytics use the inbound calls in intelligent way to satisfy the customer and engage them in purchase. This technique has strengthened the data mining and promoted the business/marketing intelligence. Dedić and Stanier (2017) explained the business intelligence as the set of processes, strategies, technologies, applications and technical architectures utilized by the companies to facilitate the presentation of business by using proper data collection and analysis. According to the rule of call analytics, the data mining approach is required in business intelligence for efficient development. According to Hand (2007), the data mining enable the analysis of observational data sets for searching the unsuspected relationships and summarizing the data in useful and understandable way. Therefore, the application of data mining in call analytics is now widely used by the marketing managers and especially the practitioners of marketing intelligence.

The big marketing models like consumer behavior, managerial marketing and contemporary marketing have facilitated the practical and advanced marketing but during their development, the artificial intelligence was at embryonic stage (King, 2019). The merger of

artificial intelligence and marketing is called marketing intelligence, and Casillas and Lopez (2010) defined it as “marketing intelligence is the everyday information relevant to a company’s markets, gathered and analyzed specifically for the purpose of accurate and confident decision-making in determining market opportunity, market penetration strategy, and market development metrics”.

1.3. Call analytics

The business intelligence plays an important role in developing the better decision making skills among business users by helping them to store, analyze and gather the data in efficient way. The main growth of this intelligence was stemmed from artificial intelligence which is all about making computer, computer-controlled robot and software having ability to think like humans (Stalidis et al., 2015). The marketers and business experts are making constant efforts to handle the business and especially the marketing issues with the traditional concepts and techniques (Wierenga & van Bruggen, 2000) but the solution to effectively handle them is adoption of artificial intelligence in business which can lead to business intelligence (Shahid and Li, 2019). Many organizations are focusing to adopt artificial intelligence in their business operations but still the development is at initial stage in emerging and even developed countries (Lukman et al., 2011). Bughin et al., (2017) highlighted that 98 % of managers of top companies are now preparing to execute the business intelligence in their operation and among them only 20 % remained successful in proper implementation. The functions, advantages and ease of business intelligence is compelling the companies to initiate the change in their organization for development of business intelligence. Therefore, the marketers of many business are now focusing on the call analytics rather than adopting the

traditional tools which provide unsatisfactory results.

The technology of call analytics use the applications of artificial intelligence to gather the data from inbound phone calls, this data includes the call tracking data like caller's name, contact number and most importantly the marketing source which driven the call. Moreover, this technology use the content of conversations to grab the conversation intelligence data that highlight the product or service in which customer is interested, conversion of customer and quality of customer satisfaction. Sudarsan and Kumar (2019) explained that the call analytics is used for collecting, measuring, analyzing and reporting of data obtained by phone call. Previous studies on analytics focused on learning (Ferguson and Clow, 2017) and machine learning but ignored the concept of call analytics. Moreover, this emerging concept has not been discussed in the context of marketing. Therefore, this research has highlighted the importance of call analytics and explained its significance from perspective of marketing and business intelligence.

2. LITERATURE REVIEW

The artificial intelligence (AI) marketing is “a method of leveraging customer data and AI concepts like machine learning to anticipate your customer's next move and improve the customer journey” (Rekha, Abdulla, & Asharaf, 2016). In ordinary explanation, if the marketing activities are performed by “computers and algorithms” rather than human, then such marketing is called artificial intelligence marketing. The call analytics is also the part of such intelligence and includes the aspects of machine learning which is platform to understand the massive data repository. The learning algorithms make a mathematical model on the basis of sample data, with the aim of making predictions. These are used in an extensive range of applications like

computer vision and filtering of emails. The machine learning can facilitate the marketing practitioners to identify the trends and efficient prediction of general responses, feedback, and common insights so they can be aware of the probability and root cause of some repeated events (Siau, & Yang, 2017). Therefore, while assisting the marketers, call analytics follow the applications of machine learning and artificial intelligence.

2.1. Call Analytics Utilization

The call analytics assign the unique and different trackable phone numbers to every marketing sources and these numbers grab the profile of caller and including his or her name, phone number, and location and marketing source. This information is gathered for marketing purpose and the recorded calls are transcribed by using speech to text technology. The artificial intelligence uses these transcriptions for further analysis that can provide information that weather customer was in urgency, about which product or service he/she inquired and is there any purchase done by them. Rao (1999) also claimed that the artificial intelligence believe in providing efficient solutions that could facilitate human by improving their working capabilities.

The data of call analytics is formulated by marketers and business managers in reports for measuring performance or latest trends. Moreover, they have access to everything including the transcription or recordings which show that response of customer. In addition, the activation of call analytics data can be done in digital ads including facebook ads, Google ads, CRMs and many other tools like these.

2.1.1. Industrial Application

The call analytic technique is essential to be used by the industries which rely merely on the inbound calls for acquiring the customers. In industries with expensive, complex, customized and urgent products, there is more need of phone calls because these calls may lead to bulk or rapid purchase. The example of industries widely using the call analytics include “automotive, home services, B2B, technology, financial services, e-commerce, healthcare, education, insurance, travel and hospitality and real estate”.

2.2. Call Analytics Features

Call analytics are utilized during the reporting phase of marketing campaigns which use phone numbers as their basic call to action. As a result, businesses can see which online and offline marketing channels are driving phone calls for their business while focusing on a better understanding of what occurred during the phone call for lead qualification as well as campaign optimization. Features of call analytics include the recording of calls, transcription of calls, lead scoring and reporting. The detail of every feature is given below:

2.2.1. Recording and transcription of calls

It enables us to listen to the conversation occur during inbound and outbound phone calls. Call recording provides insight into what takes place during the call. This function also enables us to qualify leads based on their content. We can streamline our efforts and enhance the conversion rate by focusing on the ad spend on campaigns that produce quality conversations. Due to huge call volume, listening to every call recording may not be possible, therefore, automated call transcription can be a viable solution. These transcriptions provide a visual, speaker-

organized text which can be read, providing complete visibility into inbound phone calls.

2.2.2. Lead Scoring

Lead scoring enables us to rapidly determine whether leads are qualified, allowing us to focus on the factors contributing to conversions to our business. Based on machine learning technology, automated lead scoring helps to identify which leads to focus on.

2.2.3. Reporting

Reporting with call analytics enables businesses to determine which channels are effective. Instead of just focusing on attribution, call analytics helps us to view calls by their total count, geographic location, time of day they occurred, and duration of the conversation.

2.3. Usage of Call Analytics

The usage of call analytics in business is given below:

2.3.1. Profitability Analysis

Call analytics reporting enables businesses to examine qualified leads as a percentage of total phone calls, providing insight into the channels that drive qualified calls.

2.3.2. Optimization of marketing messaging

Businesses can optimize their marketing efficiency and sales performance by analyzing the quality of the inbound calls.

2.3.3. Time Saving

By utilizing automated call scoring and transcription services, organizations can eliminate manual call management.

2.4. Data Captured by Call Analytics

The insights which can be provided by call analytics depend upon the usage of artificial intelligence. The list given below show the insight provided by inbound calls:

- *Name of caller*
- *Phone number of caller*
- *The time and date of call*
- *Call's duration*
- *Location of caller*
- *Caller's waiting time*

2.5. Call analytics and its Implication in Marketing

Liang and Xu (2002) highlighted that the marketers possess the unique and advance information that help them in taking strong decisions in complex situations. The results of modern digital advertisement are easy to be examined or quantified when every information is online but in case of inbound calls its became difficult. Therefore many marketers are struggling to align the offline and online customer journey for creation of “seamless omnichannel experience”.

The complete results of campaigns can be understood by tracking and analyzing phone conversations from each marketing channel, and this can help to spend to increase conversions at a lower cost. Additionally, the by using the call analytics, marketers can evaluate the effectiveness of our locations, sales agents in

answering calls and identify issues that are affecting the return on investment. Moreover, they can precisely identify the caller's next best action, i.e., which retargeting or lookalike campaign to put them in based on the results of their conversation. Therefore, businesses can generate more high quality phone leads by using call analytics so that they can give a better experience in order to convert those leads to consumers.

3. Methodology

Bryman & Bell (2007) explained that there are several techniques to conduct the quantitative or qualitative research. In quantitative research strategy, the researcher relies upon numerical or logical data to draw conclusions while in qualitative research the researcher uses verbal or spoken data. There are many techniques to formulate the qualitative research and among them foremost important approach is the literature analysis (Saunders, Lewis, and Thornhill, 2009). Therefore, the study has utilized the approach of literature analysis and description. Saunders, Lewis, & Thornhill, (2009) have classified the research design into three categories, exploratory, descriptive and explanatory. The explanatory research design was applied in the study and data were gathered from previous studies and online sources. The data description from databases is shown in table given below:

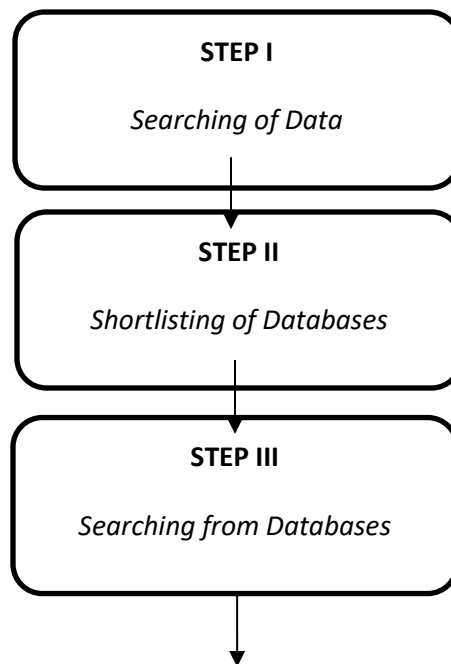
Table 1: Databases for Literature

Databases			
Contextual Database	<i>Scopus</i>	<i>Literature Database</i>	<i>Web of Science</i>
Publishers	Emerald	Publishers	MDPI
	Taylor		Emerald
	Cogent		Taylor
	Elsevier		Cogent
	IGI Global		Elsevier
	Oxford Publishers		IGI Global
	Routledge		Sage

Other Databases			
<i>Sr #</i>	<i>Name</i>	<i>Sr #</i>	<i>Name</i>
1	Literature Criticism Online (Gale)	9	Academic OneFile (Gale)
2	Literature Resource Center (Gale)	10	Academic Search Complete (Ebsco)
3	Humanities Source (Ebsco)	11	American Periodicals (Proquest)
4	LitFinder (Gale)	12	Arts & Humanities Citation Index
5	Linguistics and Language Behavior Abstracts (Proquest)	12	Artemis Literary Sources (Gale)
6	MLA International Bibliography and MLA Directory of Periodicals (Ebsco)	14	Book Citation Index (Social Sciences & Humanities)
7	ProQuest Literature & Language Database Collection	15	Clase and Peridica (OCLC)
8	WorldCat (FirstSearch)	16	Communication and Mass Media (Gale)

The table 1, provides the detail information about the databases and publishers. All these databases were searched to gather the information about call analytics and its practical implication but only few databases shown the results. Therefore, instead of relying on all these databases, the data

were also gathered from various internet sources. The collected data was then filtered and only reliable content was added. The process of data collection and generation is shown in the figure 1 given below:



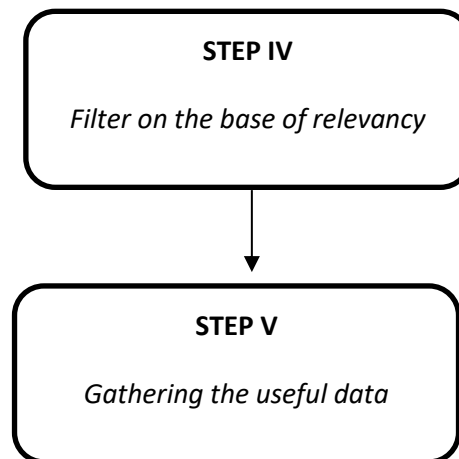


Figure 1: Data Arrangement Process

First, the data was searched by using the different keywords including, call analytics, applications of call analytics, call analytics and business intelligence, call intelligence and marketing intelligence and call analytics and business intelligence from different databases or online sources. Secondly, the list of databases was compiled to broaden the research (see, list in table 1). Third the final process of searching was started to sort the most relevant articles and information about call analytics and other keywords mentioned above. At last, the data was filtered for more clarity. The reliability and validity was not checked as the data were already gathered from valid sources.

4. CONCLUSION

The implication of artificial intelligence in marketing can help the marketers in understanding their customers and enable them to develop the strategies accordingly. The advancement in technology has changed the way of marketing and business, especially the adoption of artificial intelligence by companies has provided them new and useful insights. This adoption has also emerged the concept of call analytics and provided its implications for marketing. The call analytics is also helping the marketers to gather the more relevant data for

reaching the targeted customers and influencing them towards purchase.

5. IMPLICATIONS

On the basis of deep literature analysis gathered by this research, it has provided many theoretical, methodological, academic and practical implications. In terms of theoretical implications, this study has broadened the limited understanding of call analytics and its usage in marketing. It's very difficult to understand this technique due to its various implications and applications. Therefore, this research has shifted the attention towards artificial intelligence, marketing, marketing intelligence, call analytics and especially the usage of call analytics in business or marketing. This study significantly differs from prior studies as they merely highlighted the algorithms and operation of call analytics instead of providing details of its usage and adoption in business. Thus, the research has used all the possible factors and implications of call analytics.

This study is unique in its content as such analysis and technique has not much studied in the literature. Therefore, it has many practical implications. The marketing and business

development managers can direct their attention towards understanding the usage of call analytics. The findings of this research has provided sufficient information for managers, marketers,

business experts, entrepreneurs and business intelligence officers so that they can develop strategies for gathering the customer data and influencing them to purchase.

REFERENCES

1. Ali, A. J., & Kaynak, E. (2000). *Globalization of business: Practice and theory*. Routledge.
2. Babenko, V., Perevozova, I., Mandych, O., Kvyatko, T., Maliy, O., & Mykolenko, I. (2019). World informatization in conditions of international globalization: factors of influence.
3. Bughin, J., Hazan, E., Manyika, J., & Woetzel, J. (2017). *Artificial Intelligence: The Next Digital Frontier*. McKinsey Global Institute.
4. Burns, A. C., & Bush, R. F. (2000). Marketing research. *Globalization*, 1(7), 76-93.
5. Dedić, N., & Stanier, C. (2017). Measuring the success of changes to Business Intelligence solutions to improve Business Intelligence reporting. *Journal of Management Analytics*, 4(2), 130-144.
6. Ferguson, R., & Clow, D. (2017, March). Where is the evidence? A call to action for learning analytics. In *Proceedings of the seventh international learning analytics & knowledge conference* (pp. 56-65).
7. Hand, D. J. (2007). Principles of data mining. *Drug safety*, 30(7), 621-622.
8. Kim, K. Y. (2014). Business intelligence and marketing insights in an era of big data: The q-sorting approach. *KSII Transactions on Internet and Information Systems (TIIS)*, 8(2), 567-582.
9. King, K. (2019). *Using Artificial Intelligence in Marketing: How to harness AI and maintain the competitive edge*. Kogan Page Publishers.
10. Kotler, P., & Keller, K. L. (2012). *Marketing Management* 13 New Jersey: Pearson Prentice Hall.
11. Kurniawan, Y., Gunawan, A., & Kurnia, S. G. (2014). Application Of Business Intelligence To Support Marketing Strategies: A Case Study Approach. *Journal Of Theoretical & Applied Information Technology*, 64(1).
12. Liang, J., & Xu, Z. (2002). The algorithm on knowledge reduction in incomplete information systems. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 10(01), 95-103.
13. Lukman, T., Hackney, R., Popovič, A., Jaklič, J., & Irani, Z. (2011). Business intelligence maturity: the economic transitional context within Slovenia. *Information Systems Management*, 28(3), 211-222.
14. Rowley, J. (2016). *Information marketing*. Routledge.
15. Saladin, D. (2006). *Manajemen pemasaran*. Edisi Keempat, Bandung: Linda Karya.
16. Shahid, M. Z., & Li, G. (2019). Impact of Artificial Intelligence in Marketing: A Perspective of Marketing Professionals of Pakistan. *Global Journal of Management and Business Research*.
17. Siau, K., & Yang, Y. (2017, May). Impact of artificial intelligence, robotics, and machine learning on sales and marketing. In *Twelve Annual Midwest Association for Information Systems Conference (MWAIS 2017)* (pp. 18-19).

18. Stalidis, G., Karapistolis, D., & Vafeiadis, A. (2015). Marketing decision support using Artificial Intelligence and Knowledge Modeling: application to tourist destination management. *Procedia Social and Behavioral Sciences*, 175, 106-113.
19. Sudarsan, V., & Kumar, G. (2019). Voice call analytics using natural language processing. *Int. J. Stat. Appl. Math*, 4, 133-136.
20. Tjiptono, F. (2008). Strategi Pemasaran Edisi 3. Yogyakarta: Andi.
21. Wierenga, B., & van Bruggen, G. H. (2000). Marketing management support systems: Principles, tools, and implementation. *Springer Science & Business Media*.30.
22. Zeibote, Z., Volkova, T., & Todorov, K. (2019). The impact of globalization on regional development and competitiveness: cases of selected regions. *Insights into Regional Development*, 1(1), 33-47.